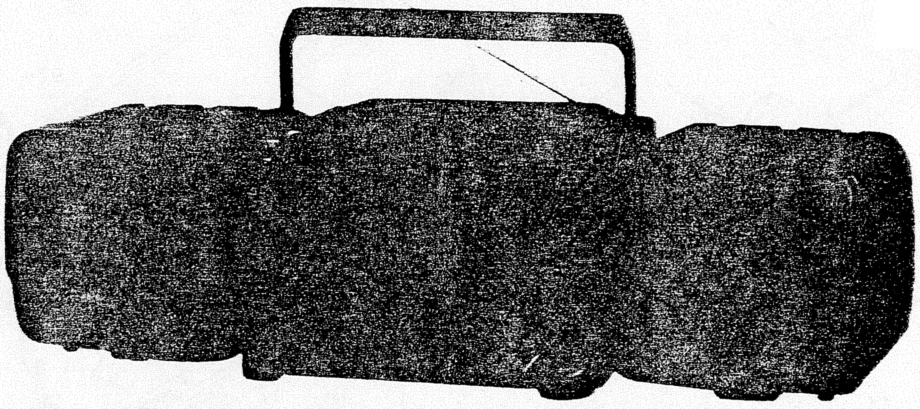
SANYO

SERVICE MANUAL

Portable Component System with CD Player

MCD-Z300F (GENERAL)



PRODUCT CODE No.
142 519 02 (Without Antenna Terminal)
142 519 04 (Antenna Terminal supplied)

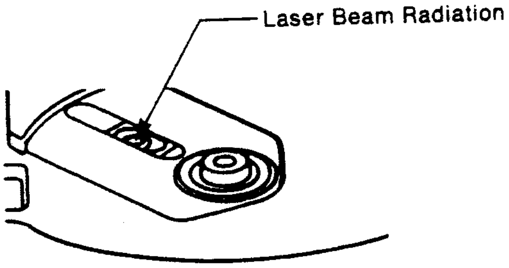
Specifications

Power Source	
AC	115/230V
Output Power (Max. Music Power)	15Wx2
Power Consumption	32W
CD	
Frequency Response	20Hz ~ 20kHz
S/N Ratio	90dB
Wow and Flutter	Unmeasurable
Sampling Frequency	44.1kHz
Error Correction	CIRC
Optical Pick-up	3-beam laser
TAPE	
Current Consumption (at Vol. Min.)	
Record mode	320mA
Playback mode	270mA
Fast Forward mode	390mA
Rewind mode	370mA
Recording System	AC Bias
Erasing System	AC Erasing
Tape Speed	1-7/8ips. ±3%
Wow & Flutter	0.15% (WRMS)
Torque	
Playback	30 ~ 60g-cm
Fast Forward/Rewind	more than 60g-cm
Fast Forward/Rewind Time	120sec. (with C-60)
Frequency Response (Overall)	
Fe_2O_3	40Hz ~ 14,000Hz
Erase Ratio (Overall, with Fe_2O_3)	60dB
Signal to Noise Ratio (with Fe_2O_3)	43dB
Crosstalk (with Fe_2O_3)	
Track to Track	50dB
Channel Separation (with Fe_2O_3)	35dB
Harmonic Distortion (K3/with Fe_2O_3)	3%
Hum & Noise (at Vol. Min.)	−60dBs
TUNER	
Frequency Range	
AM	522 ~ 1,629kHz
FM	87.5 ~ 108.0MHz

Specifications and design are subject to change without notice.

REFERENCE No. WM-570431

LASER BEAM RADIATION SPOT

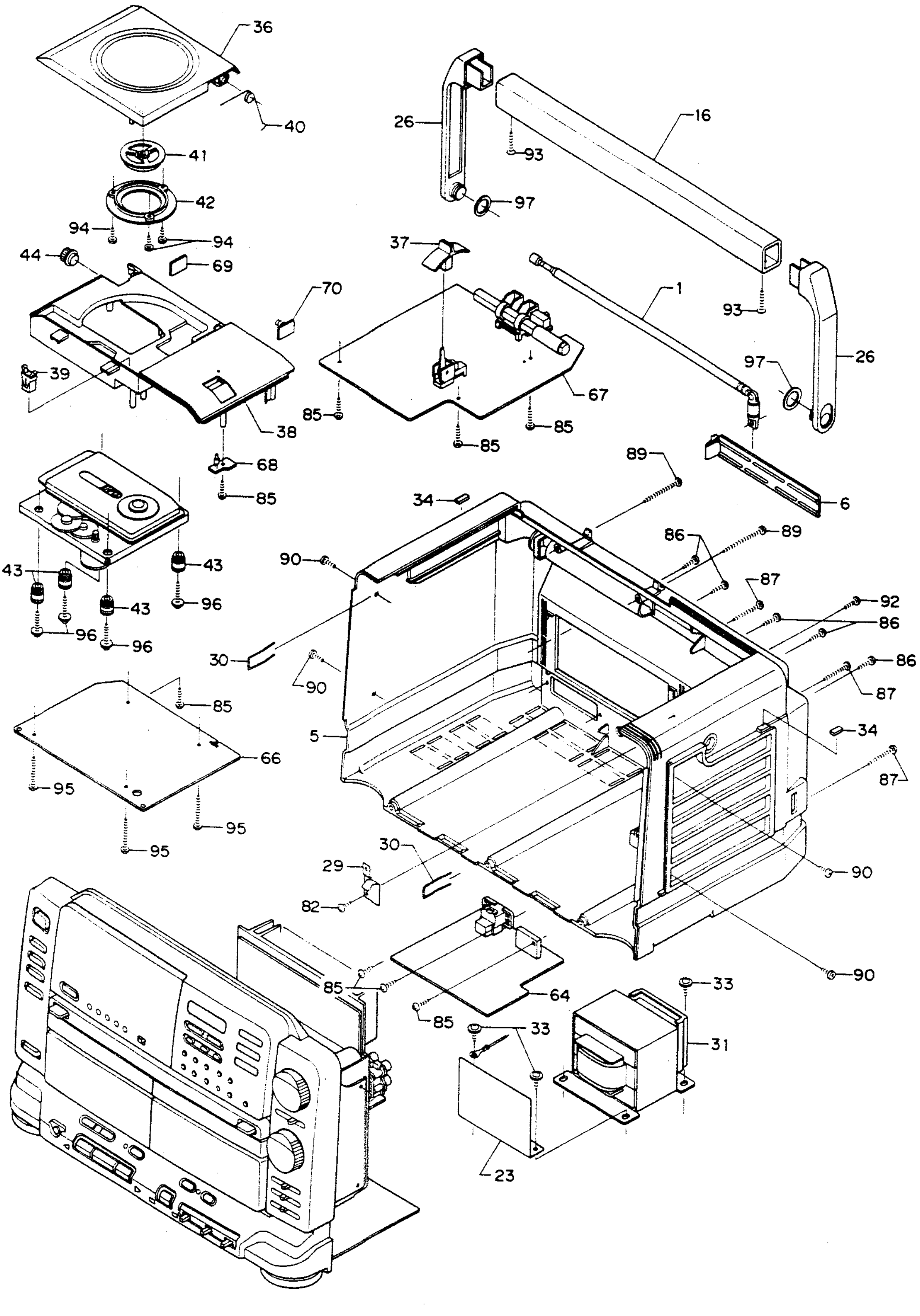


Laser Diode Properties
Material: Ga-Al-As
Wavelength: 755 – 815 nm (25°C)
Laser Output: Continuous Wave max.0.5 mW

9kHz/10kHz AM SELECTION

If correct AM tuning is not possible for many station frequencies (in the United States, Guam, Taiwan), first disconnect the AC plug from the AC wall outlet. Then keep pressing the AM button and plug the AC power cord to an AC wall outlet. The unit is automatically set to the 10kHz mode.

CABINET EXPLODED VIEW (1)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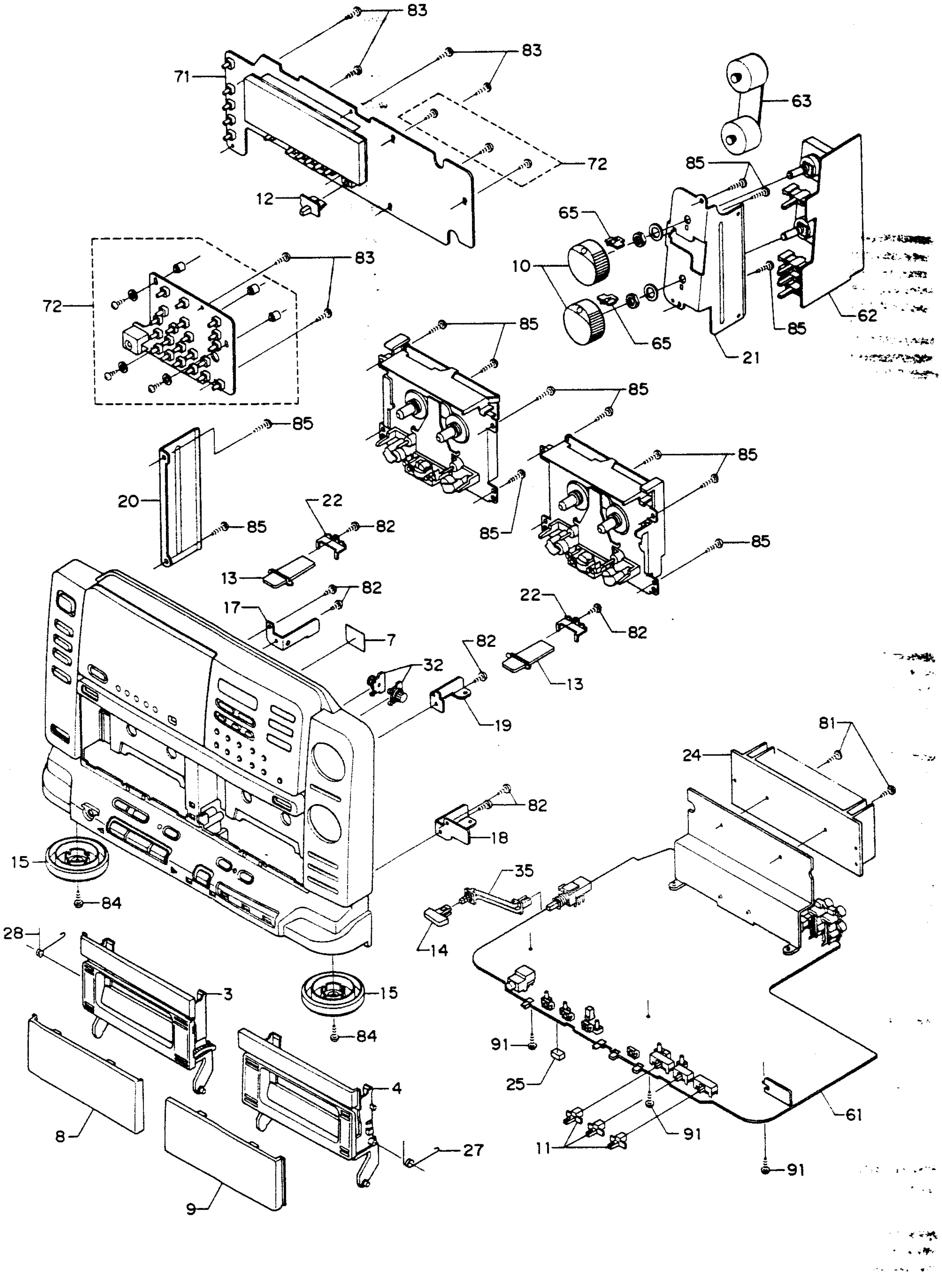
CABINET EXPLODED VIEW (2)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CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 209 0849	Inner Carton (Antenna Terminal supplied)	1
	620 209 0832	Inner Carton (Without Antenna terminal)	1
	620 198 3500	Polycover 150X300	1
	620 204 8079	Sheet	1
	620 204 8086	Sheet	1
	620 203 4140	Pad,Styrofoam,Top	1
	620 203 4157	Pad,Styrofoam,Bottom	1
	620 148 5646	Poly Cover 100 x 200	1
	620 148 8104	Poly Cover 230 x 330	1
	620 152 7506	Serial No. Sheet	2
ACCESSORIES			
	~~[illegible]~~	Plug Adaptor Assy	1
	10 ⚠ ~~620 023 7264~~	Power Cord ✓	1
	10 ~~620 030 8595~~	Alkaline Battery LR03 ✓	2
	– ~~620 030 8618~~	Battery-UM3-AL	3
	10 ~~620 209 7367~~	Antenna Adaptor Assy ✓ (Antenna Terminal supplied)	1
	— A ~~620 209 1457~~	Remocon,MCD860F (2Band)	1
	~~620 [illegible]~~	Wire,Speaker	2
	20 ~~620 209 1471~~	Instruction Manual ✓ (Antenna Terminal supplied)	1
	620 209 1464	Instruction Manual (Without Antenna Terminal)	1 1
	620 206 4666	Label,Caution	1
	620 206 4673	Label,Caution,Speaker	1
	620 054 4559	Label	1
	620 061 2340	Notes (Laser)	1
	620 061 2401	Notes (Laser)	1
	620 061 2418	Notes (Laser)	1
	620 061 2579	Notes (Laser)	1
	620 061 2586	Notes (Laser)	1
	620 153 2418	Label Caution	1
CABINET			
	620 209 0986	Label,Rating	1
	620 125 8424	Wire Band	2
1	10 620 024 4503	Rod Antenna ✓	1
2	5 620 209 0818	Assy,Cabinet,Front ✓	1
3	– 620 202 4363	Assy,Lid,Cassette,Left	1
4	– 620 202 4370	Assy,Lid,Cassette,Right	1 ✓
5	5 620 208 7917	Cabinet,Rear (Antenna Terminal supplied)	1
5	620 209 0825	Cabinet,Rear (Without Antenna Terminal)	1
6	10 620 203 7523	Lid,Battery ✓	1
7	– A 620 203 8025	Panel,Remote	1
8	10 620 201 8010	Window,Cassette,Left ✓	1
9	10 620 201 8027	Window,Cassette,Right ✓	1
10	20 620 201 6832	Knob,Rotary,Volume ✓	2
11	620 201 6849	Knob,Slide ✓	3
12	10 620 201 8126	Knob,Slide,Timer ✓	1
13	20 620 202 0266	Knob,Lever,Eject ✓	2
14	620 201 6788	Knob,BRSS ✓	1
15	620 201 7952	Foot,Cabinet ✓	2
16	10 620 206 3324	Handle ✓	1
17	620 202 1140	Bracket-M,Lid,Left	1
18	620 202 1164	Bracket-M,Lid,Right	1
19	620 202 1171	Bracket-M,Lid,Center	1
20	620 202 1188	Bracket-M,Left	1
21	620 202 1195	Bracket-M,Right	1
22	620 202 1201	Bracket-M,Eject	2
23	620 202 8736	Shield,Plate	1
24	620 200 6345	Heat Sink	1
25	620 203 9084	Cushion,Rubber	1
26	620 201 7969	Arm,Handle	2
27	620 202 6039	Spring,Tors,Lid,Right	1
28	620 202 6046	Spring,Tors,Lid,Left	1
29	620 202 1126	Spring,Plate,Antenna	1
30	620 202 4875	Spring,Handle	2
31	10 ⚠ 620 205 8856	Power Trans,SEV ✓	1
32	20 620 083 1864	Gear Eject Assy ✓	2
33	620 122 7413	Screw	3
34	620 124 3482	Cushion Handle ✓	2
35	20 620 129 2701	Lever Power Switch ✓	1
36	— A 620 206 3560	Assy,Lid,CD	1
37	20 620 201 6801	Knob,Lever,Tuner Mode ✓	1
38	620 209 0788	Compartment,CD	1
39	620 202 3960	Clamp	1
40	20 620 202 4820	Spring,Tors,Lid,CD ✓	1

Ref. No.	Part No.	Description	Q'ty
41	10 ~~620 [illegible] 2367~~	Magnet Assy ✓	1
42	10 ~~620 [illegible] 0735~~	Holder Magnet ✓	1
43	620 191 6416	Cushion Rubber	4
44	20 ~~620 127 4843~~	Gear Eject ✓	1
61	– A ~~[illegible]~~	Assy,PCB,Amplifier	1
62	– A ~~620 [illegible] 9251~~	Assy,PCB,Graphic EQ.	1
63	10 ~~620 201 6268~~	Assy,PCB,Motor ✓	1
64	– A ~~620 207 [illegible]~~	Assy,PCB,Power Supply	1
65	– A ~~620 [illegible] 7637~~	Assy,PCB,LED	2
66	10 ~~620 [illegible] 7557~~	Assy,PCB,CD ✓	1
67	10 ~~620 208 [illegible]~~	Assy,PCB,Tuner ✓ (Antenna Terminal supplied)	1
67	– A ~~620 [illegible]~~	Assy,PCB,Tuner (Without Antenna Terminal)	1
68	10 ~~620 [illegible]~~	Assy,PCB,LED ✓	1
69	10 ~~620 201 8690~~	Assy,PCB,Battery Anode ✓	1
70	10 ~~620 201 8706~~	Assy,PCB,Battery Cathode ✓	1
71	– A ~~620 208 8805~~	Assy,PCB,Control	1
72	10 ~~620 201 8720~~	Assy,PCB,Switch ✓	1
81	411 132 0200	SCR S-TPG PAN 2.6X10	2
82	411 023 2801	SCR S-TPG PAN 2.6X6	8
83	411 023 3303	SCR S-TPG PAN 2.6X8	6
84	411 023 3501	SCR S-TPG PAN 2.6X8	2
85	411 023 4003	SCR S-TPG PAN 3X10	21
86	411 023 4201	SCR S-TPG PAN 3X10	5
87	411 023 5109	SCR S-TPG PAN 3X14	3
89	411 100 0904	SCR S-TPG PAN 3X30	2
90	411 031 7706	SCR BIN 3X5	4
91	411 002 6004	SCR PAN 2.6X6	3
92	411 040 4802	SCR PAN 2.6X8	1
93	411 006 3801	SCR TPG FLT 3X10	2
94	411 100 0805	SCR S-TPG PAN 2X7	3
95	411 023 6700	SCR S-TPG PAN 3X25	3
96	412 036 1409	SPECIAL SCREW	4
97	412 035 4609	SPECIAL WASHER	2

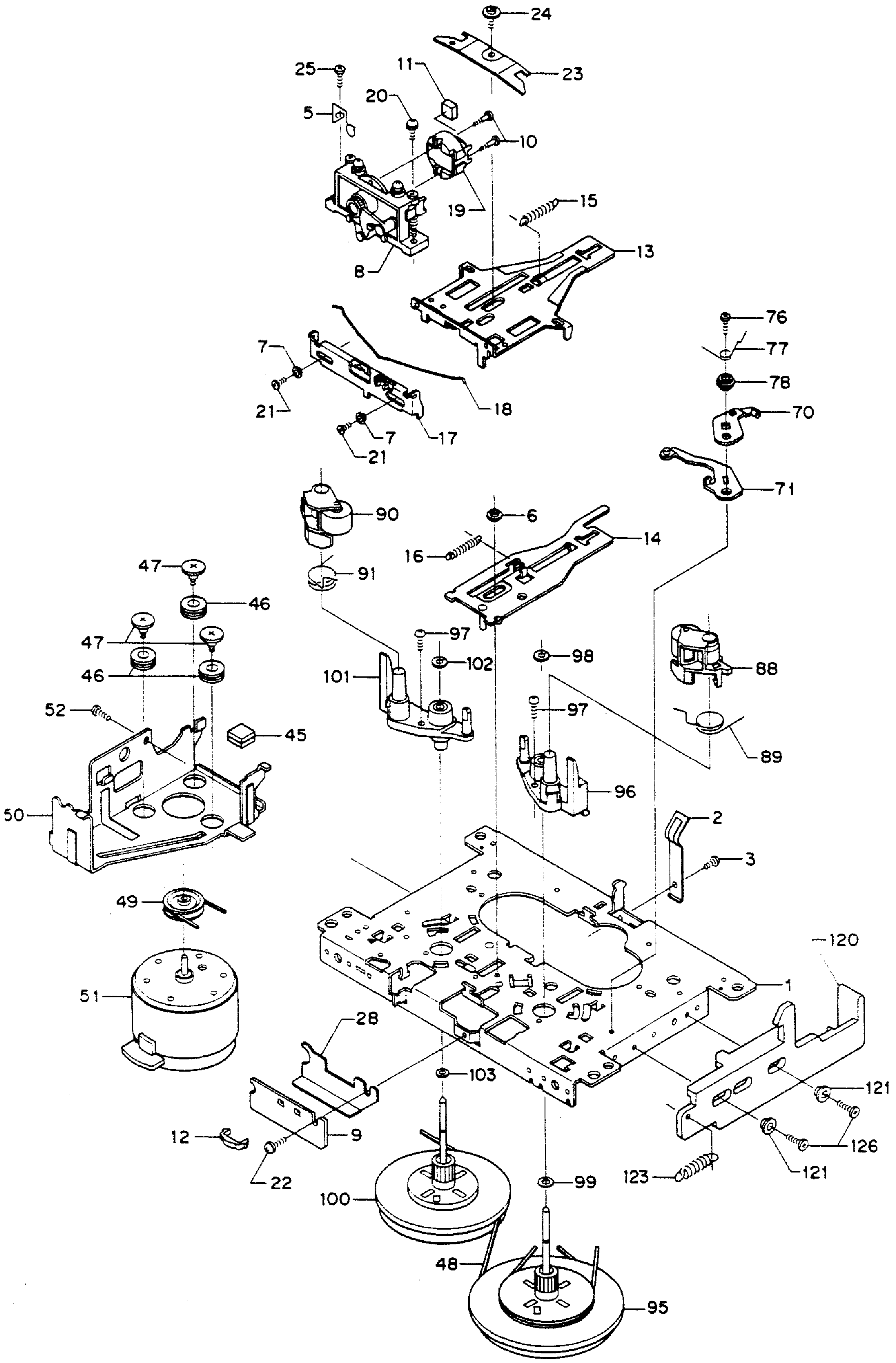
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CASSETTE MECHANISM EXPLODED VIEW (TAPE A-1)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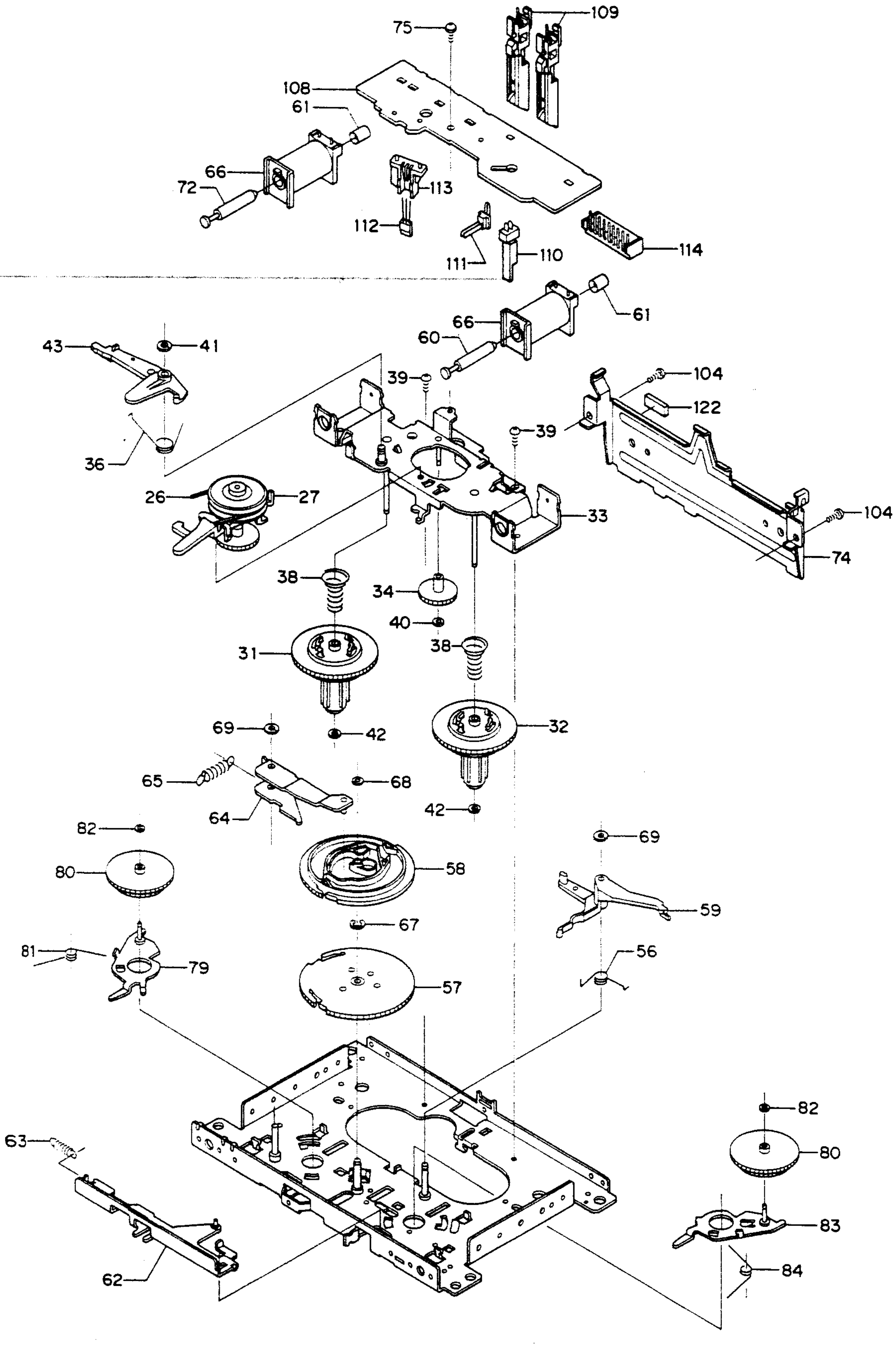
CASSETTE MECHANISM EXPLODED VIEW (TAPE A-2)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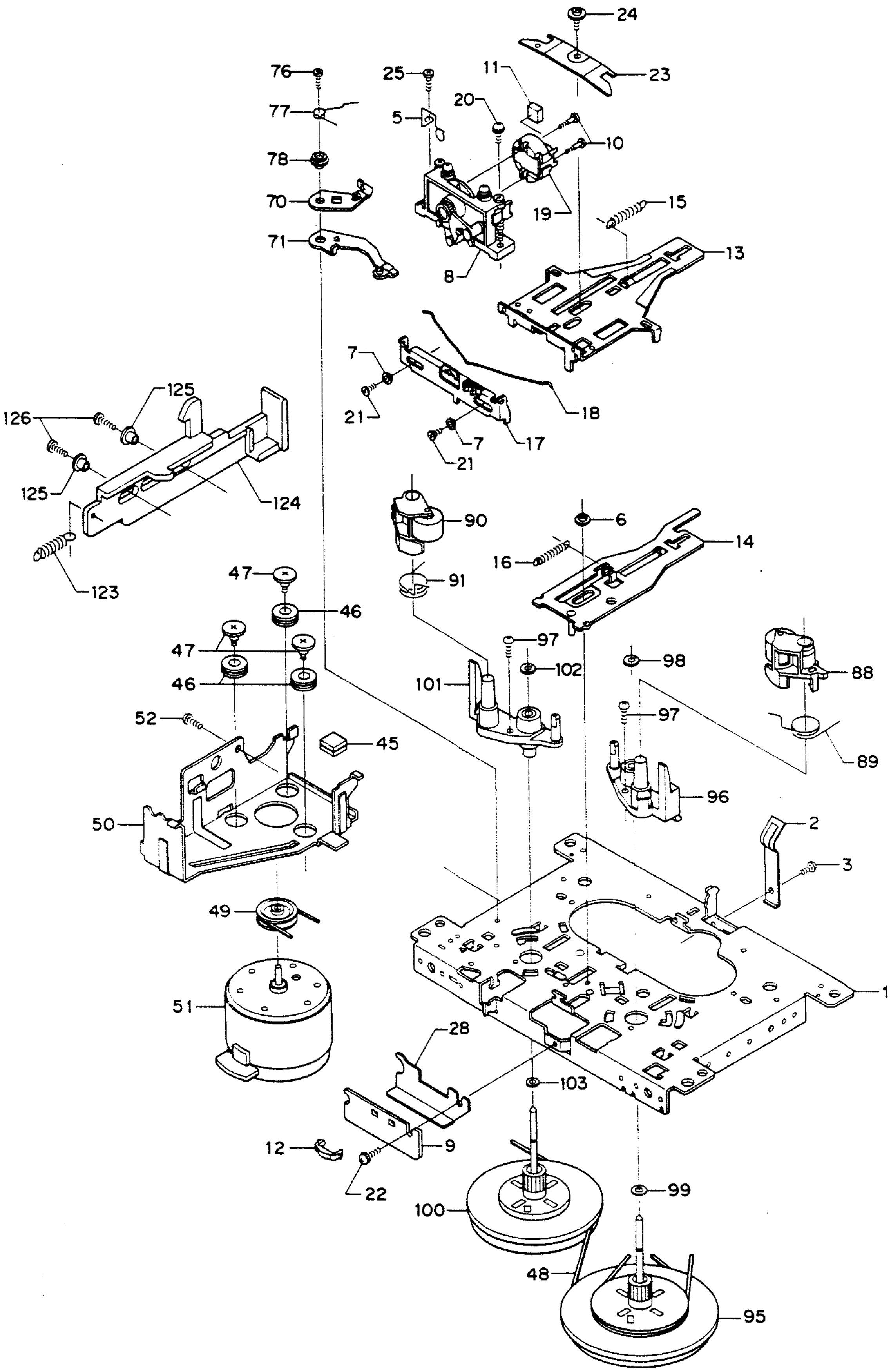
CASSETTE MECHANISM EXPLODED VIEW (TAPE B-1)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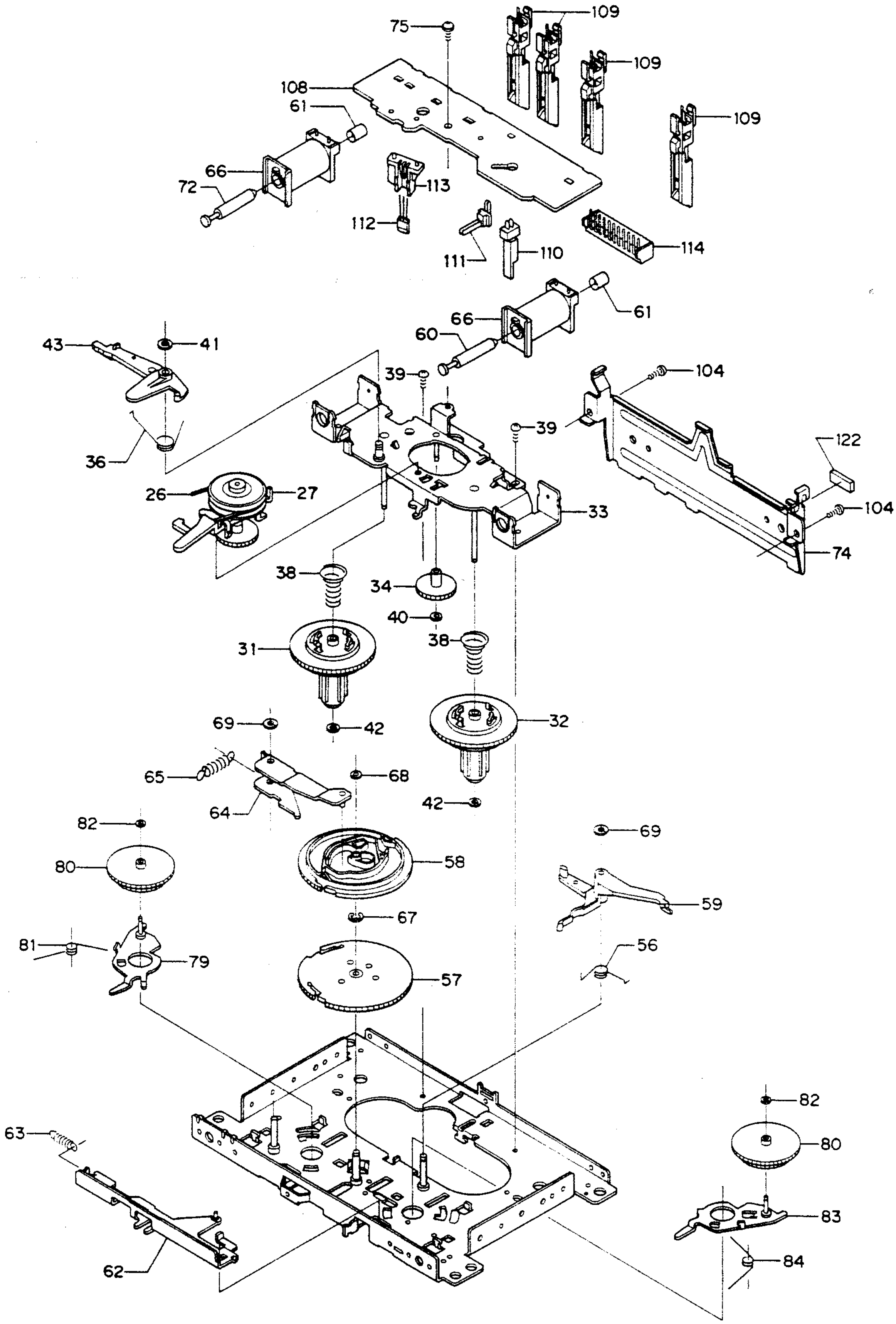
CASSETTE MECHANISM EXPLODED VIEW (TAPE B-2)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CASSETTE MECHANISM PARTS LIST

TAPE A & TAPE B SIMILAR PARTS

Ref. No.		Part No.	Description	Q'ty
		620 203 7295	Assy,Connector-S,4P	2
1	5	620 200 3245	Assy,Chassis ✓	2
2	20	620 186 8078	Spring Cassette ✓	2
3		620 200 2996	S-TPG 2X4	2
5		620 200 3436	Spring,Wire,Clamp	2
6		620 200 3429	Collar,Base,Slide	2
7		620 200 3290	Collar	4
8	10	620 200 3313	Assy,Base,Head ✓	2
10	20	620 200 3337	Special Screw ✓	4
11	10	620 200 3344	Spacer ✓	2
12		620 200 3351	Clamp,Wire	2
13	10	620 200 3368	Base,Slide,A ✓	2
14	10	620 200 3375	Assy,Base,Slide,B ✓	2
15		620 200 3382	Spring,Tens,RC	2
16		620 200 3399	Spring,Tens,Base,Slide	2
17	10	620 200 3405	Slide,Change Head ✓	2
18		620 200 3412	Spring,Wire,Pinchroller	2
20		620 200 2965	PAN + W 2X5	2
21		620 200 3054	PAN PCS 1.7X3	4
22		620 200 3108	TPG PAN + SW 2X5	2
23		620 200 3474	Spring,Plate,Base,Slide	2
24		620 200 3085	Special Screw	2
25		620 200 2989	BIN 2X5	2
26	30 R	620 200 3443	Belt,Square,RF ✓	2
27	40	620 200 3450	Assy,RF ✓	2
28		620 200 3467	Shield Plate	2
31	10 R	620 200 3481	Assy,Reel,Take UP,F ✓	2
32	10 R	620 200 3498	Assy,Reel,Take UP,R ✓	2
33	5	620 200 3504	Assy,Base,Reel	2
34	20	620 200 3511	Gear,FF ✓	2
36		620 200 3535	Spring,Tors,FR Trigger	2
38		620 200 3542	Spring,Comp,BT	4
39		620 195 0946	S-TPG 2X4	4
40		620 200 3009	Special Washer	2
41		620 200 4082	Special Washer	2
42		620 200 3139	Special Washer	4
43	10	620 200 3559	Arm,Trigger,RF ✓	2
45		620 200 3566	Cushion	2
46		620 200 3573	Cushion,Rubber,Motor	6
47		620 200 3580	Special Screw	6
48	30 R	620 200 3597	Belt,Square,Main ✓	2
49	30	620 201 3893	Pulley,Motor ✓	2
51	25 R	620 201 3886	Motor ✓	2
52		620 195 0946	S-TPG 2X4	2
56		620 200 3610	Spring,Tors,M Trigger	2
57	20	620 200 3634	Gear,M ✓	2
58	20	620 200 3658	Gear,RF Cam ✓	2
59	20	620 200 3665	Arm,M Trigger ✓	2
60		620 200 3672	Plunger	2
61		620 200 3702	Holder,Plunger	4
62	10	620 200 3719	Assy,Slide,Change,Head ✓	2
63		620 200 3726	Spring,Tens,Slide,CH	1
64	10	620 200 3733	Assy,Lever,Kick P ✓	2
65		620 200 3740	Spring,Tens,Lever,Kick	2
66		620 200 3757	Solenoid	4
67		620 200 3016	Ring-E 2.0	2
68		620 200 3177	Special Washer	2
69		620 200 3153	Special Washer	4
72		620 200 3528	Plunger	2
74		620 200 3764	Protector,SW	2
75		620 195 0946	S-TPG 2X4	2
76		620 200 3061	TPG PAN PCS 2X6	2
77		620 200 3900	Spring,Tors,Stopper EJ	2
78		620 200 4006	Collar,Stopper,EJ	2
79	10	620 200 3771	Assy,Arm,Gear,Take F ✓	2
80	20	620 200 3788	Gear,Take UP ✓	4
81		620 200 3795	Spring,Tors,Arm,Gear,T	2
82		620 200 3009	Special Washer	4
83	10	620 200 3801	Assy,Arm,Gear,Take UP ✓	2
84		620 200 3818	Spring,Tors,Arm,Gear,T	2
88	30 R	620 200 3825	Assy,Pinchroller,F ✓	2
89		620 200 3832	Spring,Tors,Arm,Pinch	2
90	30 R	620 200 3849	Assy,Pinchroller,R ✓	2
91		620 200 3856	Spring,Tors,Arm,Pinch,R	2
95	— R	620 200 3863	Assy,Flywheel,FWD	2
96		620 200 3870	Metal,Capstan,FWD	1
97		620 195 0953	S-TPG 2X6	4
98		620 200 3191	Special Washer	2
99		620 200 3139	Special Washer	2
100	— R	620 200 3887	Assy,Flywheel,REV	2
101		620 200 3894	Metal,Capstan,REV	2
102		620 200 3177	Special Washer	2
103		620 200 3122	Special Washer	2
104		620 195 0946	S-TPG 2X4	4
108	10	620 200 3917	PCB,Switch ✓	2
109	20	620 200 3924	Switch,Leaf ✓	4
110	10	620 206 4697	Leaf Switch MSW-1699CF ✓	2
111	10	620 206 4703	Leaf Switch MSW-17944MVDO ✓	2
112	10	407 127 9204	SENSOR DN6849 ✓	2
113		620 200 3962	Protector,Sensor	2
122		620 124 7565	Cushion	2
123		620 136 9175	Spring Lever Lock	2
126		411 021 0809	SCR S-TPG BIN 2X6	4

TAPE A ONLY

Ref. No.		Part No.	Description	Q'ty
		620 201 9277	Assy,Connector-S,3P ✓	1
9	10	620 200 4013	PCB,Head	1
19	20 R	620 201 3916	Head KP7442CS9794 ✓	1
50	10	620 200 4020	Bracket,Motor ✓	1
70	10	620 200 4037	Stopper,Eject A ✓	1
71	10	620 200 4044	Stopper,Eject B,F ✓	1
114		620 021 8627	Plug 9P	1
120		620 202 0297	Lock,Lid,Right	1
121		620 189 5452	Spacer	2

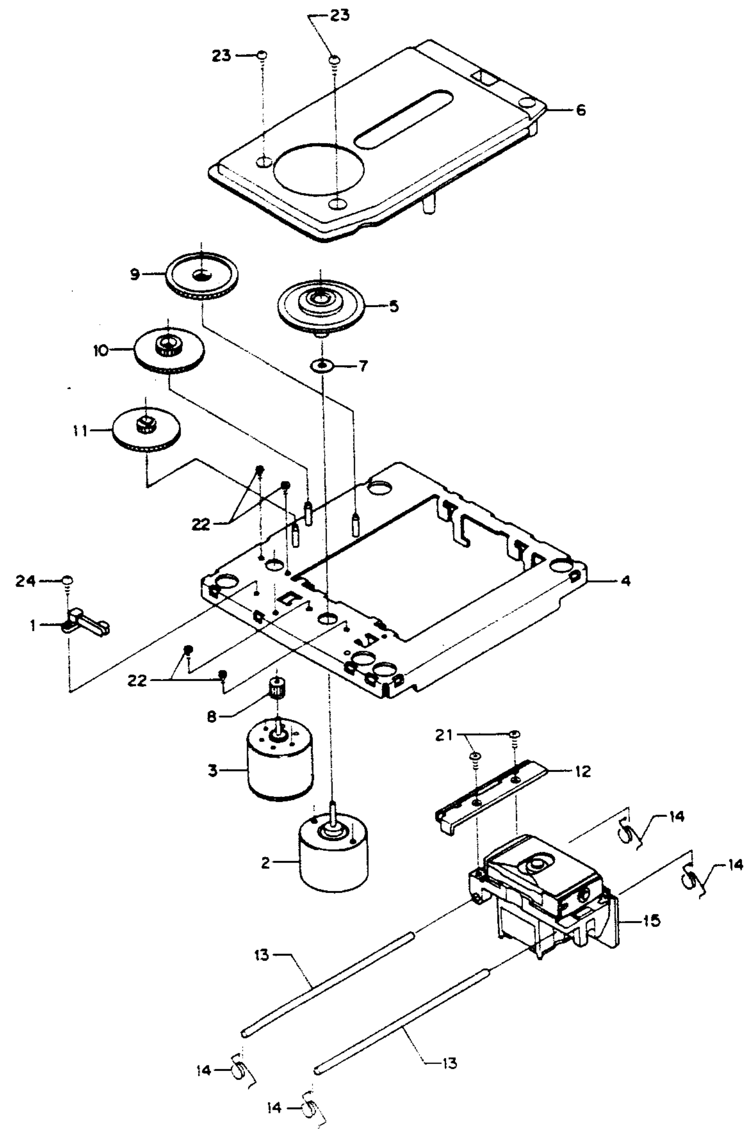
TAPE B ONLY

Ref. No.		Part No.	Description	Q'ty
		620 201 9291	Assy,Connector-S,2P	1
		620 201 9284	Assy,Connector-S,6P	1
9		620 200 3320	PCB,Head	1
19	20 R	620 201 3909	Head KC9242CB9732 ✓	1
50	10	620 200 3603	Bracket,Motor ✓	1
70	10	620 200 3979	Stopper,Eject B ✓	1
71	10	620 200 3993	Stopper,Eject B,Right ✓	1
109	20 R	620 200 3924	Switch,Leaf ✓	2
114		620 022 1214	Plug 11P	1
124		620 202 0280	Lock,Lid,Left	1
125		620 202 4868	Spacer	2

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

CD MECHANISM EXPLODED VIEW & PARTS LIST



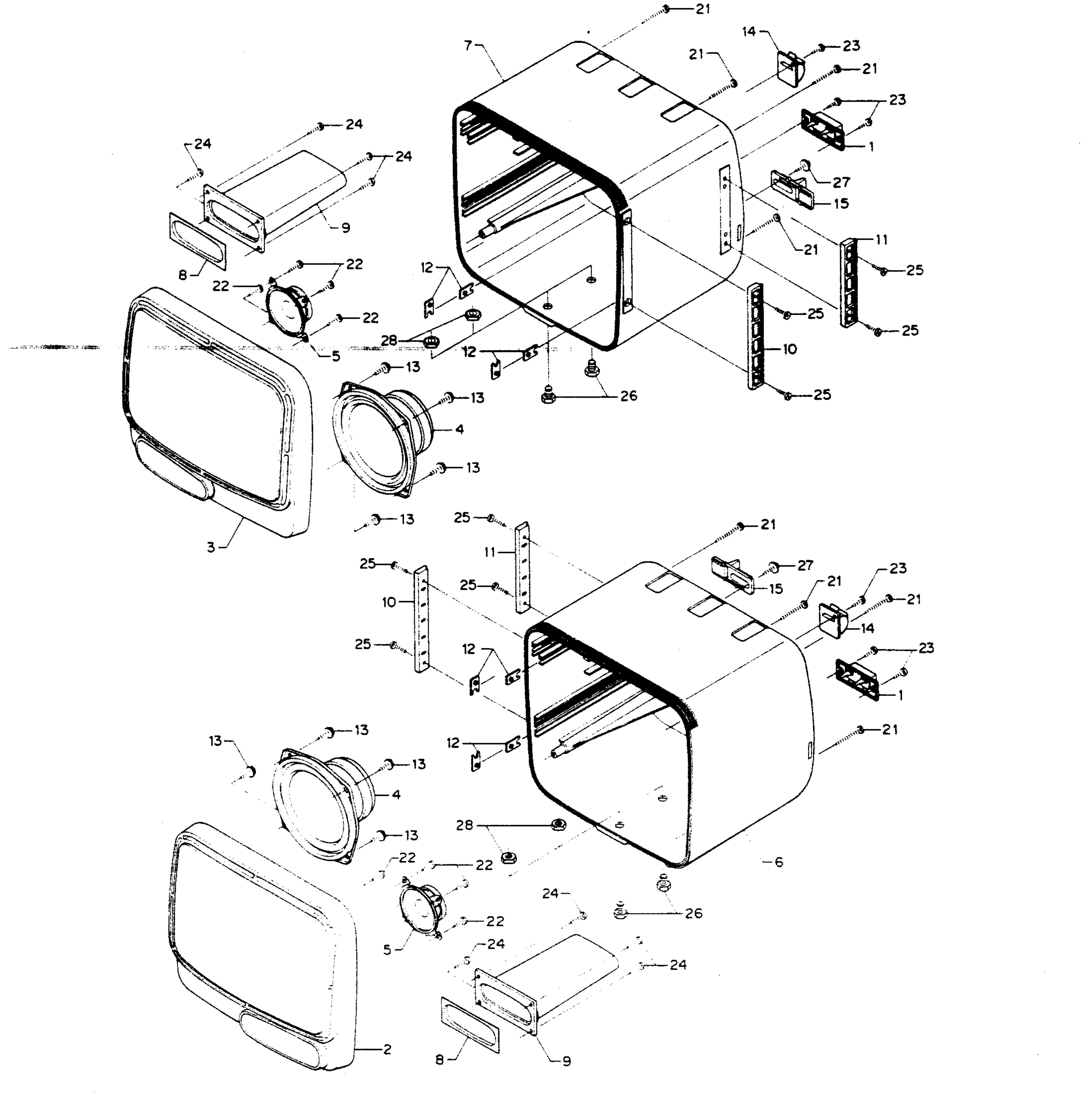
Ref. No.		Part No.	Description	Q'ty
CD MECHANISM				
		620 187 6994	Connector 2P Assy [CN601]	1
		620 187 7014	Connector 4P Assy [CN602] ✓	1
1	20	620 015 8633 •	Leaf Switch [S1]	1
2	20 4	620 030 4290	Spindle Motor [M3] ✓	1
3	40 A	620 190 1702	Motor [M4] ✓	1
4	10	620 183 4819 •	Chassis Assy ✓	1
5	30	620 082 7478 •	Turntable Assy ✓	1
6	10	620 183 7377 •	Cover CD ✓	1
7		620 125 1487	Washer M1.9X7.0X0.25 ✓	1
8	20	620 127 7814 •	Gear Motor ✓	1
9	20	620 127 9542	Gear Pinion	1
10	20	620 127 9559 •	Gear Load B	1
11	20	620 127 9566 •	Gear Load S ✓	1
12		620 127 9573	Gear Rack	1
13	10	620 133 4159 •	Shaft Pickup ✓	2
14		620 196 2697	Spring,Torsion	4
15	15 ⚠	620 201 5774	Assy,Pickup,Laser,90 ✓	1
21		411 129 0800	SCR FLT PCS 2X5	2
22		411 019 9302	SCR PAN PCS 1.7X2.5	4
23		411 107 6404	SCR S-TPG PAN 2.6X6	3

Ref. No.	Part No.	Description	Q'ty

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

SPEAKER BOX EXPLODED VIEW & PARTS LIST



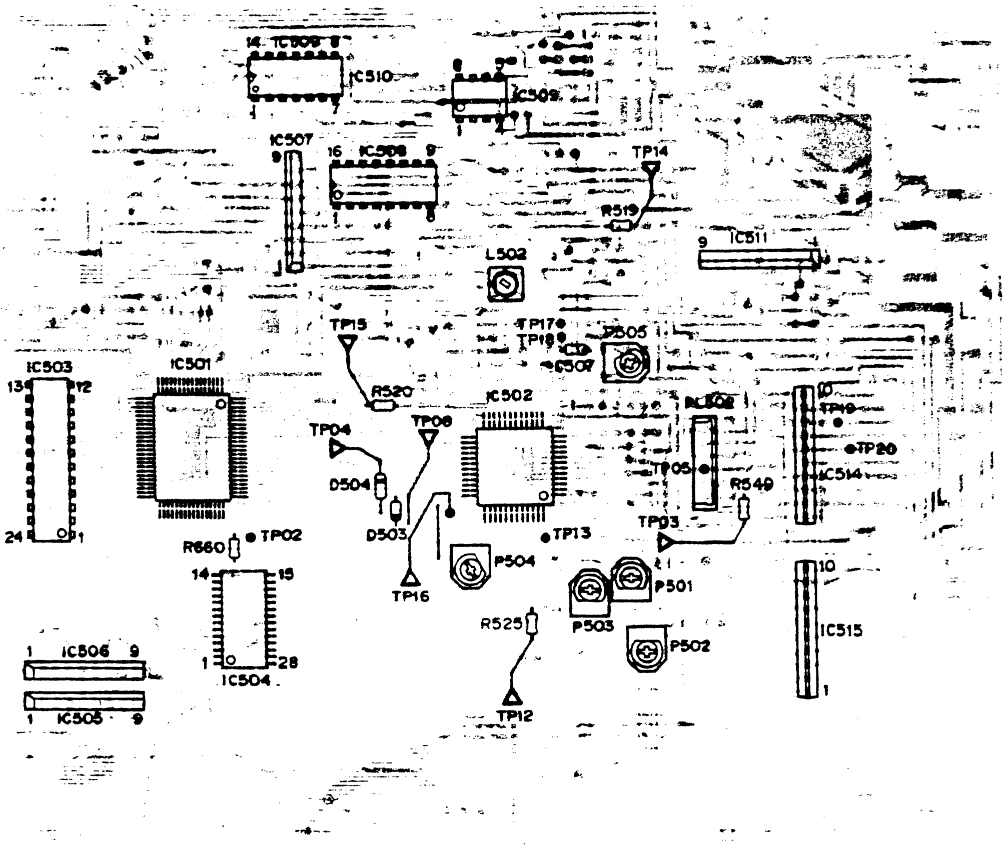
Ref. No.	Part No.	Description	Q'ty
SPEAKER BOX			
1	5 620 022 5229 ●	Push Terminal 2P ✓	2
2	5 620 202 9245 ●	Assy,Cabinet,Speaker,F,R ✓	1
3	5 620 202 9252 ●	Assy,Cabinet,Speaker,F,L ✓	1
4	20 620 202 8477 ●	Speaker,6Ω,130mm ✓	2
5	20 620 202 8484 ●	Speaker,6Ω,50mm ✓	2
6	5 620 202 9283 ●	Assy,Cabinet,Speaker,R,R ✓	1
7	5 620 202 9290 ●	Assy,Cabinet,Speaker,R,L ✓	1
8	620 202 9313	Veil,Duct	2
9	620 201 8331	Duct	2
10	620 113 8559	Holder (L)	2
11	620 113 8566	Holder (S)	2
12	620 189 3595	Spacer	8
13	620 123 0284	SCR TPG BIN + M4.0X8	8
14	5 620 125 8967 ●	Adjust Clamp ✓	2
15	10 620 136 5931 ●	Plate Lock ✓	2

Ref. No.	Part No.	Description	Q'ty
21	411 098 0900	SCR S-TPG BIN 3X30	8
22	411 021 6405	SCR S-TPG BIN 3X8	8
23	411 023 4201	SCR S-TPG PAN 3X10	6
24	411 023 4508	SCR S-TPG PAN 3X12	8
25	411 031 4804	SCR BIN 3X14	8
26	412 024 3101	SPECIAL SCREW	4
27	412 024 4306	SPECIAL SCREW	2
28	411 056 1505	NUT HEX 8	4

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

CD P.C.BOARD ALIGNMENT POINTS


IC510
IC509
IC507
IC508
TP14
R519
IC511
L502
TP15
TP17
TP18
P505
C507
IC503
IC501
R520
IC502
TP04
TP06
TP19
TP20
IC514
TP05
R549
D504
D503
TP03
R660
TP02
TP13
P504
TP16
P501
P503
P502
R525
IC515
IC506
IC505
IC504
TP12

CD ADJUSTMENT PROCEDURES

FREE RUN FREQUENCY ADJUSTMENT

1. **Connect the frequency counter to test terminal TP2** (VCO) test pin and to **GND.** (Use a 10:1 probe.)
2. Apply Power Switch to the set and press the STOP button.
3. Adjust the OSC coil L502 using a plastic screwdriver until the frequency counter indicator reads 4.3218MHz.

SETTING OF INITIAL POSITION OF VOLUME

1. Set the variable resistors to the initial positions listed below:

P501 (E/F BALANCE)	Mechanical Center
P502 (TRACKING GAIN)	Mechanical Center
P503 (TRACKING OFFSET)	Mechanical Center
P504 (KICK GAIN)	Mechanical Center
P505 (FOCUS GAIN)	Mechanical Center

FOCUS OFFSET ADJUSTMENT

1. Apply Power Switch to the set and press the STOP button.
2. Connect a DC Voltmeter to the test terminal **TP3** (F focus coil) pin and short the focus test terminal **TP4** (F-OF) pin to **GND.**
3. In this condition check that the DC Voltmeter indicator is in the range −0.6V ±0.2V.
4. Open the test terminal **TP4** to **GND.**

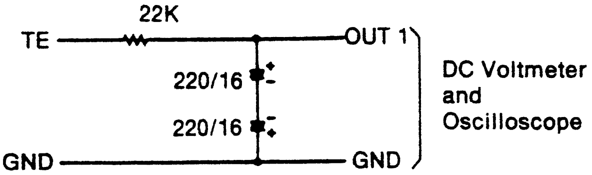
TRACKING OFFSET ADJUSTMENT

1. Apply Power Switch to the set and press the STOP button.
2. Connect a DC Voltmeter to the test terminal **TP5** (T tracking coil) pin and short the **TP8** (T-OFSW) pin to **GND.**
3. In this condition check that the DC Voltmeter indicator is in the range 50mV±50mV, and adjust P503 if it is not.
4. Open the test terminal **TP8** to **GND.**

NOTE:
Perform this adjustment once again after adjusting the TRACKING GAIN signals.

E/F BALANCE ADJUSTMENT

1. Place the test disc (Modern Wave II) on the turntable, and play the fourth item on the disc. Short the test terminal of microprocessor TEST pin (IC901) to the **GND** pin, and test terminal **TP12** (T-OFF) pin to **GND** to turn tracking servo OFF.
2. Connect a DC Voltmeter and an oscilloscope via the low-pass filter like that shown in the illustration below to the test terminal **TP13** (TE tracking error) pin.



Measurement circuit

3. Adjust P501 so that the DC Voltmeter reading is minimum (oscilloscope waveform is symmetric to + and − about the zero level).
4. Open TEST pin (IC901) to **GND** and **TP12** to **GND.**

CONFIRMING JITTER

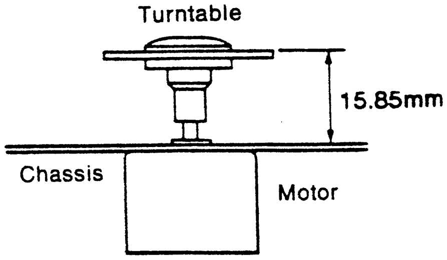
If no jitter counter is available, this check does not have to be have to be performed.

1. PLAY the fourth item on the test disc (Modern Wave II).
2. Connect a jitter counter to test terminal **TP15** pin, and check that the 3T jitter value is less than 25ns.
(Window width: 600ns ~ 850ns, Set Level: 2.5V)
3. Now PLAY the tenth item on the test disc and check that the jitter value is less than 25ns again.

ADJUSTMENT OF TURNTABLE HEIGHT

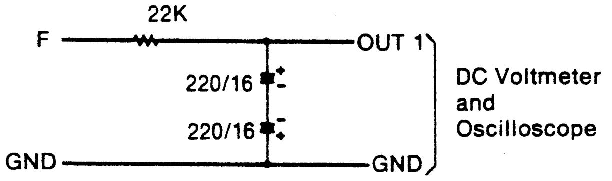
This adjustment must be performed when the Spindle Motor is replaced.

1. The turntable should be mounted so that its upper surface is 15.85mm±0.1mm above the surface of the chassis.



CD ADJUSTMENT PROCEDURES (Continued)

2. Place the test disc (Modern Wave Ⅱ) on the turntable.
3. Connect a DC Voltmeter and an oscilloscope via the low-pass filter shown below to test terminal **TP3** (F focus coil) pin.


F
22K
OUT 1
220/16
220/16
GND
GND
DC Voltmeter
and
Oscilloscope

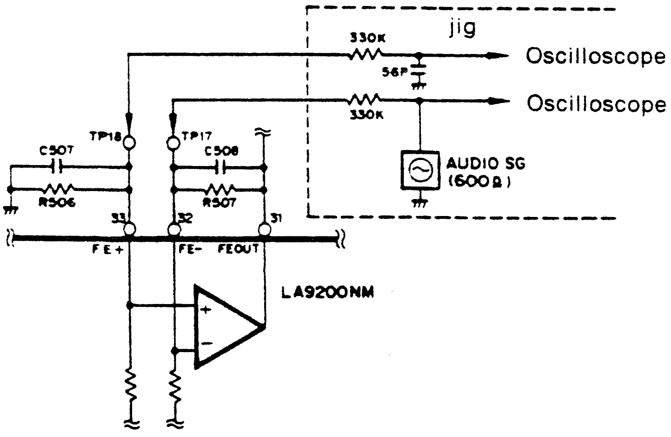
Measurement circuit

4. Apply Power Switch to the set and PLAY the first item on the disc.
5. If the DC Voltmeter reading is not in the ranges 0V±0.2V for inner tracks and 0V±0.2V for outer tracks, then the turntable height must be readjusted. Raise the turntable higher if the DC Voltmeter indicator is on the plus (+) side, and lower it if it is on the minus (−) side.

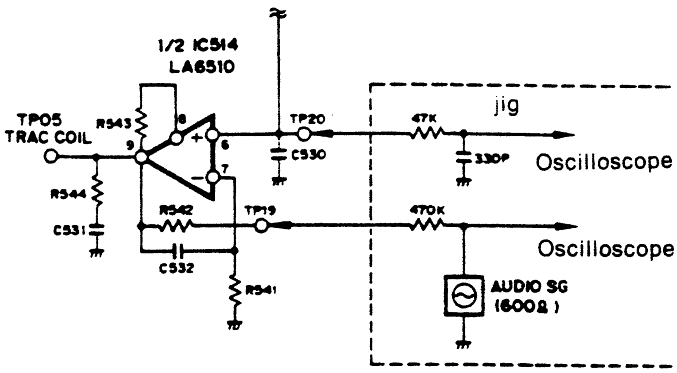
ADJUSTMENT OF FOCUS/TRACKING GAIN

The measurement circuit diagrammed below must be used in order to adjust focus gain and tracking gain correctly.

(FOCUS GAIN)

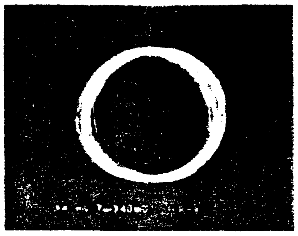

jig
330K
56P
330K
Oscilloscope
Oscilloscope
AUDIO SG
(600Ω)
TP18
TP17
C507
C508
R506
R507
33
32
31
FE+
FE-
FEOUT
LA9200NM

(TRACKING GAIN)


1/2 IC514
LA6510
TP05
TRAC COIL
R543
R544
C531
8
9
6
7
TP20
C530
R542
TP19
C532
R541
jig
47K
330P
Oscilloscope
470K
Oscilloscope
AUDIO SG
(600Ω)

FOCUS GAIN ADJUSTMENT

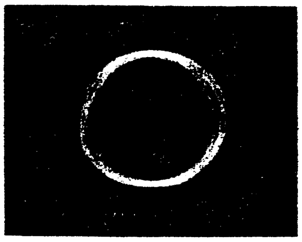
1. Apply P505 to the center position, and place the test disc (Modern Wave Ⅱ) on the table load.
2. Apply Power Switch to the set and PLAY the first item on the test disc. Now apply a signal of 850Hz and 2.5Vp-p from the signal generator to the measurement circuit.
3. Set the oscilloscope to X-Y operation, and while observing the lissajous waveform adjust P505 to the point where the phase difference is 90° as shown below.



CD ADJUSTMENT PROCEDURES (Continued)

TRACKING GAIN ADJUSTMENT

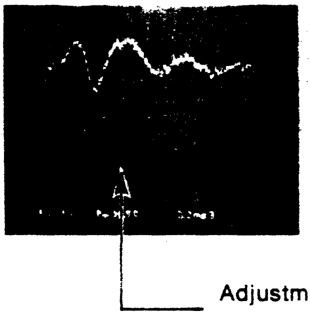
1. Apply P502 to the center position, and place the test disc (Modern Wave Ⅱ) on the table load.
2. Apply Power Switch to the set and PLAY the first item on the test disc. Now apply a signal of 1.5kHz and 1.5Vp-p from the signal generator to the measurement circuit.
3. Set the oscilloscope to X-Y operation, and while observing the lissajous waveform adjust P502 to the point where the phase difference is 90° as shown below.



NOTE:
If these two adjustments are performed, the TRACKING OFFSET must also be adjusted.

KICK GAIN ADJUSTMENT

1. Place the test disc (Modern Wave Ⅱ) on the table load.
2. Set the oscilloscope to NORMAL TRIG., set the EXT. TRIG. pin to external trigger, and input the trigger from test terminal **TP16** (TRH) pin to the oscilloscope.
3. Next connect test terminal **TP14** (RF) pin to Channel 1 of the oscilloscope, and connect test terminal **TP13** (TE) pin to Channel 2.
4. Apply Power Switch to the set and PLAY the first item on the test disc, and the press the PAUSE button. Now observe the waveforms for **RF** and **TE** with triggers applied from test terminal **TRH** pin. At this point, adjust P504 so that a kick pulse waveform of about 1.5 tracks as shown below is obtained.



← Tracking Error Out

← HF waveform

Adjustment must be performed so curve section appears.

CASSETTE DECK ELECTRICAL ADJUSTMENTS

BIAS ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal, and AC VTVM to the L side output of TP301.
2. Load Tape B with a normal tape (Example: TDK AC223) and set it in the recording mode.
3. Set the input level volume control to the maximum position and feed the signals of 1kHz and 12kHz at 32mV (−30dBs) from the frequency generator into the unit. Then, record the signals on the tape.
4. Play back the recorded signals adjust P103, so that the difference in output of the 1kHz and 12kHz signals become 0dB±1.5dB.
5. Adjust P203 for the R side by following the same procedures as described for the L side (TP302).

NORMAL TAPE ADJUSTMENT

1. Connect the dummy load (32Ω) and the frequency counter to the L side output of the headphone jack.
2. Load Tape A with a test tape (Example: TEAC MTT-111) and set it in the playback mode.
3. Adjust the potentiometer P301, so that the output becomes 3000Hz ±5Hz.
4. Perform the same adjustment for Tape B (32Ω) (P302).

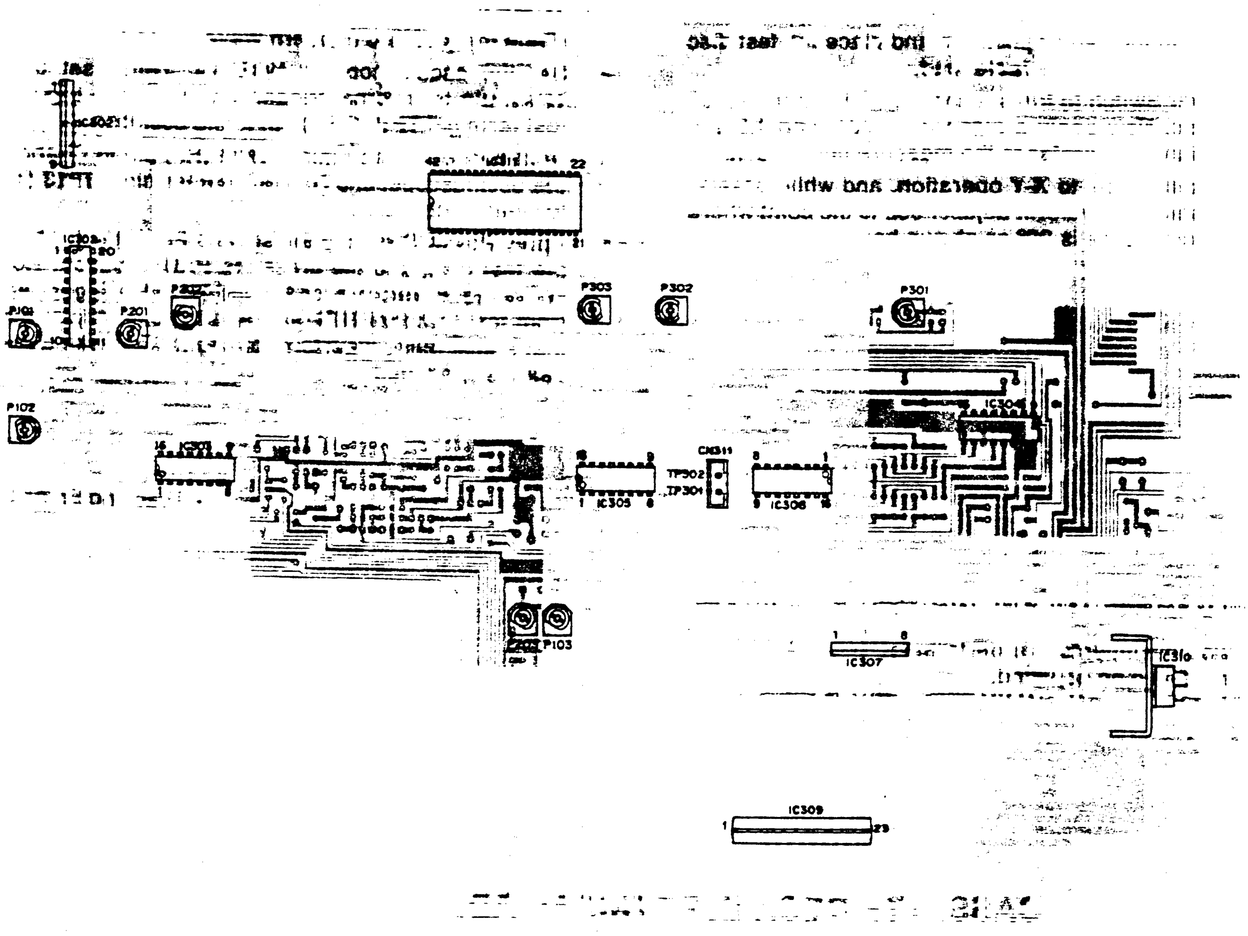
HIGH SPEED TAPE SPEED ADJUSTMENT

1. Connect the dummy load (32Ω) and the frequency counter to the L side output of the headphone jack.
2. Load Tape A with a test tape (Example: TEAC MTT-111) and load Tape B with a normal tape (Example: TDK AC223) and set it in the High Speed Dubbing mode.
3. Play back the recorded signals adjust P303, so that the output becomes 3000Hz ±5Hz.

PLAYBACK SENSITIVITY ADJUSTMENT

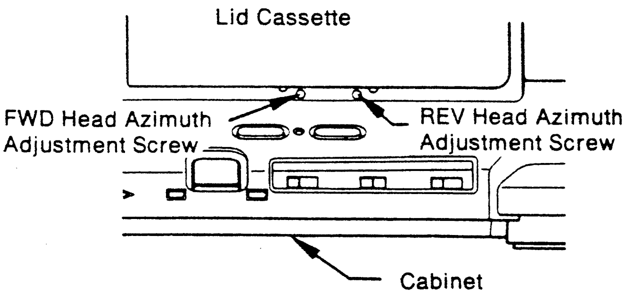
1. Connect AC VTVM to the L side output of TP301.
2. Load Tape A with a test tape (Example: TEAC MTT-150) and set it in the playback mode.
3. adjust P101, so that the output of TP301 becomes 560mV ±0.5dB.
4. Connect AC VTVM to the TP302 terminal and adjust P201, so that the output becomes 560mV ±0.5dB.
5. Adjust P102, P202 for the Tape B by following the same procedures as described for the Tape A.

CASSETTE DECK ELECTRICAL ADJUSTMENTS (Continued)


P101
P102
P201
P202
P302
P303
P301
IC305
IC306
CN311
TP302
TP301
IC304
P203
P103
IC307
IC310
IC309

HEAD AZIMUTH ADJUSTMENT

1. Connect the dummy load (32Ω) and the dualtrace oscilloscope to the L and R side output of the headphone jack.
2. Load Tape A with a test tape (Example: TEAC MTT-114) and set it in the forward playback mode.
3. Adjust the forward head azimuth adjustment screw, so that the wave forms become maximum on the oscilloscope and the right wave form overlaps with the left one.
4. Set to the reverse playback mode.
5. Adjust the reverse head azimuth adjustment screw in the same way as for the forward side.
6. Repeat the above several time.
7. Adjust Tape B in the same way as for Tape A.


Lid Cassette
FWD Head Azimuth Adjustment Screw
REV Head Azimuth Adjustment Screw
Cabinet

TUNER ADJUSTMENT

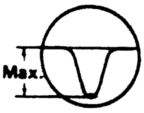
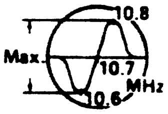
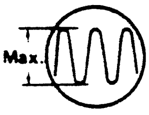
EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna for AM
- Dummy Antenna (75Ω,unbalanced type) for FM
- Ceramic Capacitor (10pF)
- Carbon Resistor (100kΩ, 330kΩ)
- VTVM
- DC Voltmeter (High Impedance)
- Oscilloscope
- Frequency Counter
- Dummy Load (3.2Ω)
- Alignment Tool
- Before performing the adjustment, set the Switches and controls as follows:
  - ‡ Function Switch .... RADIO
  - ‡ Graphic Equalizer Controls .... 0(click position)
  - ‡ Volume Controls .... Arbitrary

NOTE:
Use an alignment tool with plastic grip for all adjustments.

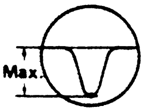
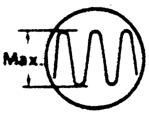
FM ALIGNMENT

Standard Test Frequency 400Hz and Deviation 22.5kHz

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Frequency Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Connect output terminal of gene-scope to TP3 through capacitor (10pF).	Connect input terminal of gene-scope to TP6 through capacitor (1μF).	10.7MHz	87.5MHz	Turn T2 (blue core) fully counter-clockwise and then, adjust T1.	Obtain symmetrical curve and maximum amplitude. 
2						T2 (blue core)	Obtain S curve and maximum amplitude. 
3	Calibration of Tuning Range	–	Connect DC voltmeter to TP4.	–	108.0MHz	L2	Reading on the DC voltmeter is 6.5V.
4	Adjustment of Tracking	Connect FM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced type).	Connect VTVM with 3.2Ω dummy load and oscilloscope to Speakers terminal.	90.0MHz	90.0MHz	L1	Obtain sine-curve and maximum amplitude. 
5				106.0MHz	106.0MHz	TC1	

AM ALIGNMENT

Standard Test Frequency 400Hz Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Frequency Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Connect the coil (5~6 turn) to the output of gene-scope and allow it to come near the bar antenna.	Connect input terminal of gene-scope to TP5 through capacitor (1μF).	450kHz	522kHz	T3	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	–	Connect DC voltmeter to TP4.	–	1,629kHz	T4	Reading on the DC voltmeter is 7.5V.
3	Adjustment of Tracking	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna	Connect VTVM with 3.2Ω dummy load and oscilloscope to Speakers terminal.	603kHz	603kHz	L3	Obtain sine-wave of 400Hz and maximum amplitude. 
4				1,404kHz	1,404kHz	TC2	

TUNER ADJUSTMENT (Continued)

FM/AM STATION DETECT SENSITIVITY ALIGNMENT

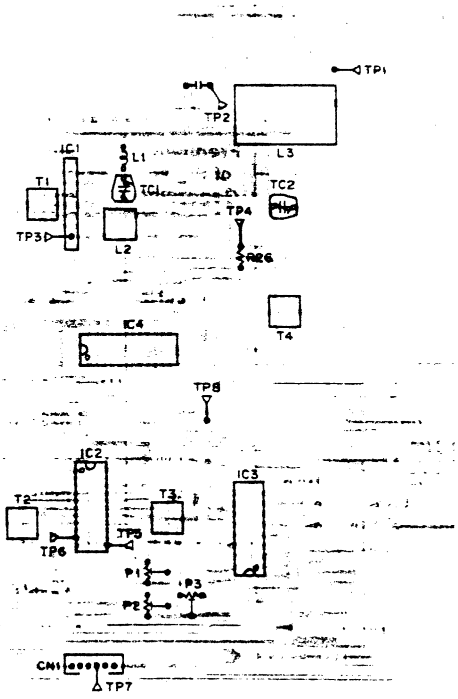
Step	Alignment	Connections		Frequency of Signal Generator	Tuning Frequency Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	FM	Connect FM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced type).	Connect a DC voltmeter into both sides of the resistor R14.	90.0MHz (ANT.input 60dBμ)	90.0MHz	T2	Reading on the DC voltmeter is less than ±10mV.
2			Connect DC voltmeter to TP7.	90.0MHz (ANT.input 20dBμ)	90.0MHz	P2	Reading on the DC voltmeter should meet at the point of "LOW" level changed from the "HIGH" level.
3	AM	Connect loop antenna to output of AM signal generator Place loop antenna 60 cm away from bar antenna.	Connect DC voltmeter to TP7.	603kHz (ANT.input 54dBμ)	603kHz	P1	Reading on the DC voltmeter should meet at the point of "LOW" level changed from the "HIGH" level

NOTE:
In the first instance, perform the adjustment for FM

FM MPX (Multiplex) ADJUSTMENT

1. Before the adjustment, set the switches as follows:
   - Function Switch .... RADIO
   - FM Mode Switch .... STEREO
   - Band Switch .... FM
2. Connect a frequency counter to Pin 12 of IC3 (**TP8**) through a resistor 100kΩ.
3. Adjust the potentiometer (**P3**) until the oscillation frequency of IC3 becomes 19kHz (±20Hz).

TUNER P.C.BOARD ALIGNMENT POINTS
(TOP VIEW)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,AMPLIFIER			
61 — 2	620 201 3244	~~Assy,PCB,Amplifier~~	1
	620 053 8084	Plate Heat Sink	1
	620 202 1133	Heat Sink,IC	1
	411 023 9800	SCR S-TPG PAN 3X8	4
	620 202 7302	Shield,Plate	1
	620 022 1832	Style Pin 1P	3
	620 203 1828	Clamp,Wire	1
	620 203 6113	Spacer,LED	2
	411 023 8803	SCR S-TPG PAN 3X6	1
	620 021 6814	Pin 1P	1
	620 203 8827	Bracket-E,Tact Switch	3
	620 205 7132	Sheet	1
	620 022 5151	4P Push Terminal	1
	620 017 2370	RCA Pin Jack 4P	1
CN301	620 021 6210	Connector 6P	1
CN302	620 021 6180	Connector 3P	1
CN303	620 021 6197	Connector 4P	1
CN304	620 021 6180	Connector 3P	1
CN305	620 021 6197	Connector 4P	1
CN306	620 021 6197	Connector 4P	1
CN307	620 021 6180	Connector 3P	1
CN308	620 021 6869	Connector 2P	1
CN311	620 021 8320	Plug 5P	1
CN312	620 021 8597	Plug 4P	1
CN313	620 021 8405	Plug 8P	1
CN321	620 202 5926	Assy,Connector-S,9P	1
CN322	620 202 5933	Assy,Connector-S,11P	1
CN323	620 201 9253	Assy,Connector-S,2P	1
F101	620 208 6194	Circuit Protector,N38	1
F201	620 208 6194	Circuit Protector,N38	1
J101	620 017 1908	Jack 3P	1
J201	620 017 1908	Jack 3P	1
J301	620 020 7065	Jack 7P Black	1
L101	620 029 5949	Coil 333 Shield	1
L102	620 191 1152	Dolby Filter	1
L201	620 029 5949	Coil 333 Shield	1
L202	620 191 1152	Dolby Filter	1
L301	620 197 9022	Inductor 100UH K	1
L302	620 197 9022	Inductor 100UH K	1
P101	620 006 1940	Potentiometer 10KB	1
P102	620 006 1940	Potentiometer 10KB	1
P103	620 006 2015	Potentiometer 50KB	1
P201	620 006 1940	Potentiometer 10KB	1
P202	620 006 1940	Potentiometer 10KB	1
P203	620 006 2015	Potentiometer 50KB	1
P301	620 006 2879	Potentiometer 3KB	1
P302	620 006 2879	Potentiometer 3KB	1
P303	620 006 2848	Potentiometer 5KB	1
S301	620 016 7796	Tact Switch	1
S302	620 016 7796	Tact Switch	1
S303	620 203 9558	Switch,Tact	1
S304	620 203 9558	Switch,Tact	1
S305	620 203 9558	Switch,Tact	1
S306	620 016 7796	Tact Switch	1
S307	620 016 7796	Tact Switch (DUB)	1
S308	620 016 7796	Tact Switch (HS)	1
S309	620 203 9558	Switch,Tact ✓	1
S310 20A	620 016 4122	Slide Switch (BEAT)	1
S311 20	620 015 3928	Slide Switch 2P3T (REV MODE) ✓	1
S312 20A	620 015 3928	Slide Switch 2P3T ✓	1
S313 20	620 015 3904	Slide Switch 2P2T (DOLBY) ✓	1
S314 20A	620 016 8823	Push Switch 1 Key (DELTA) ✓	1
T301	620 201 7501	Trans,OSC	1
IC301 — 2	409 121 8702	IC LA3246	1
IC302 10A	409 145 8405	IC UPC1330HA ✓	1
IC303 20	409 003 9407	IC BU4052B ✓	1
or	409 030 5700	IC MC14052BCP	1
IC304 20	409 003 9407	IC BU4052B ✓	1
or	409 030 5700	IC MC14052BCP	1
IC305 — 2	409 119 9803	IC CXA1101P	1
IC306	409 146 5403	IC CXA1198AP ✓	1
IC307 10A	409 069 4705	IC M5218L-R ✓	1
IC308 — 2	409 069 4705	IC M5218L-R	1
IC309 30	409 203 5209	IC LA4620 ✓	1
IC310	~~409 027 1005~~	IC L780S12	1
IC311	~~409 203 3700~~	IC LC7995-8504	1
Q101	~~405 018 0200~~	TR 2SC3331-U-AA	1
Q102	~~405 021 0600~~	TR 2SD1012-G-SPA-AC	1
Q103	405 000 7606	~~TR JC501-Q-T~~	1
Q104	405 000 7606	TR JC501-Q-T	1
Q105	405 000 7606	TR JC501-Q-T	1
Q106	405 030 8000	~~TR 2SC1740SLN-R-T~~	1
Q107	405 018 0200	TR 2SC3331-U-AA	1
Q108	405 000 7606	TR JC501-Q-T	1
Q109	405 018 0200	TR 2SC3331-U-AA	1
Q110	405 003 7801	~~TR 2SA1347-AC~~	1
Q201	405 018 0200	TR 2SC3331-U-AA	1
Q202	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q203	405 000 7606	TR JC501-Q-T	1
Q204	405 000 7606	TR JC501-Q-T	1
Q205	405 000 7606	TR JC501-Q-T	1
Q206	405 030 8000	TR 2SC1740SLN-R-T	1
Q207	405 018 0200	TR 2SC3331-U-AA	1
Q208	405 000 7606	TR JC501-Q-T	1
Q209	405 018 0200	TR 2SC3331-U-AA	1
Q210	405 003 7801	TR 2SA1347-AC	1
Q301	405 011 0306	~~TR 2SC1583-F~~	1
or	405 011 0405	TR 2SC1583-G	1
Q302	405 018 0200	TR 2SC3331-U-AA	1
Q303	405 018 0200	TR 2SC3331-U-AA	1
Q304	405 018 0200	TR 2SC3331-U-AA	1
Q305	405 007 6404	~~TR 2SB598-E-NP-AA~~	1
Q306	405 007 6404	TR 2SB598-E-NP-AA	1
Q307	405 007 6404	TR 2SB598-E-NP-AA	1
Q308	405 007 6404	TR 2SB598-E-NP-AA	1
Q309	405 007 6404	TR 2SB598-E-NP-AA	1
Q310	405 007 6404	TR 2SB598-E-NP-AA	1
Q311	405 018 0200	TR 2SC3331-U-AA	1
Q312	405 018 0200	TR 2SC3331-U-AA	1
Q313	405 003 5708	~~TR 2SA1318-T~~	1
Q314	405 003 5708	~~TR 2SA1318-T~~	1
Q315	405 024 9907	~~TR 2SD734-F~~	1
Q316	405 000 7309	~~TR JA101-Q~~	1
Q317	405 000 7606	TR JC501-Q-T	1
Q318	405 000 7606	TR JC501-Q-T	1
Q319	405 000 7606	TR JC501-Q-T	1
Q320	405 000 7606	TR JC501-Q-T	1
Q321	405 000 7606	TR JC501-Q-T	1
Q322	405 000 7606	TR JC501-Q-T	1
Q323	405 000 7606	TR JC501-Q-T	1
Q324	405 000 7606	TR JC501-Q-T	1
Q325	405 000 7606	TR JC501-Q-T	1
Q326	405 000 7606	TR JC501-Q-T	1
Q327	405 000 7606	TR JC501-Q-T	1
Q328	405 000 7606	TR JC501-Q-T	1
Q329	405 000 7606	TR JC501-Q-T	1
Q330	405 000 7606	TR JC501-Q-T	1
Q331	405 000 7309	TR JA101-Q	1
D101 20	407 008 0405	DIODE GMB01-BT ✓	1
D102	407 008 0405	DIODE GMB01-BT	1
D103	407 008 0405	DIODE GMB01-BT	1
D104	407 008 0405	DIODE GMB01-BT	1
D105	407 008 0405	DIODE GMB01-BT	1
D201	407 008 0405	DIODE GMB01-BT	1
D202	407 008 0405	DIODE GMB01-BT	1
D203	407 008 0405	DIODE GMB01-BT	1
D204	407 008 0405	DIODE GMB01-BT	1
D205	407 008 0405	DIODE GMB01-BT	1
D301 20A	407 027 8307	LED SLP-155B ✓	1
D302	407 027 8307	LED SLP-155B ✓	1
D303 20	407 127 2908	LED SEL1332G ✓	1
D304	407 127 2908	LED SEL1332G ✓	1
D305 20	407 062 7204	LED SEL2213C ✓	1
D306	407 062 7204	LED SEL2213C	1
D313 20	407 099 5402	ZENER DIODE MTZJ6.2B-T-77 ✓	1
D314 20	407 063 9306	ZENER DIODE MTZJ7.5C ✓	1
D321 20	407 061 4808	DIODE ERA15-01 ✓	1
D322	407 061 4808	DIODE ERA15-01	1
D323	407 061 4808	DIODE ERA15-01	1
D324	407 061 4808	DIODE ERA15-01	1
D331	407 008 0405	DIODE GMB01-BT	1
D332	407 008 0405	DIODE GMB01-BT	1
D333	407 008 0405	DIODE GMB01-BT	1
D334	407 008 0405	DIODE GMB01-BT	1
D335	407 008 0405	DIODE GMB01-BT	1
D336	407 008 0405	DIODE GMB01-BT	1
D337	407 008 0405	DIODE GMB01-BT	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
D338	407 008 0405	DIODE GMB01-BT				1
D339	407 008 0405	DIODE GMB01-BT				1
D340	407 008 0405	DIODE GMB01-BT				1
D341	407 008 0405	DIODE GMB01-BT				1
D342	407 008 0405	DIODE GMB01-BT				1
D343	407 008 0405	DIODE GMB01-BT				1
D344	407 008 0405	DIODE GMB01-BT				1
D345	407 008 0405	DIODE GMB01-BT				1
D350	407 008 0405	DIODE GMB01-BT				1
D361 20	407 005 3805	DIODE DS442-BT ✓				1
D362	407 005 3805	DIODE DS442-BT				1
C101	403 073 7004	CERAMIC	470P	K	50V	1
C102	403 073 7004	CERAMIC	470P	K	50V	1
C103	403 073 7004	CERAMIC	470P	K	50V	1
C104	403 041 3304	ELECT	47U	M	10V	1
C105	403 002 1905	CERAMIC	0.01U	K	25V	1
C106	403 051 2007	ELECT	4.7U	M	50V	1
C107	403 003 0600	CERAMIC	0.018U	K	25V	1
C108	403 049 1609	ELECT	1U	M	50V	1
C109	403 004 2504	CERAMIC	0.056U	K	25V	1
C110	403 072 8200	CERAMIC	330P	K	50V	1
C111	403 003 6701	CERAMIC	0.033U	K	25V	1
C112	403 049 1609	ELECT	1U	M	50V	1
C113	403 001 6208	CERAMIC	2700P	M	16V	1
C114	403 049 1609	ELECT	1U	M	50V	1
C115	403 049 1609	ELECT	1U	M	50V	1
C116	403 048 7602	ELECT	0.47U	M	50V	1
C117	403 051 2007	ELECT	4.7U	M	50V	1
C118	403 157 9900	OS-SOLID	0.68U	K	16V	1
C119	403 051 2007	ELECT	4.7U	M	50V	1
C120	403 049 1609	ELECT	1U	M	50V	1
C121	403 050 1209	ELECT	2.2U	M	50V	1
C122	403 072 8200	CERAMIC	330P	K	50V	1
C123	403 001 8905	CERAMIC	6800P	M	16V	1
C124	403 048 3109	ELECT	0.22U	M	50V	1
C125	403 039 7901	ELECT	100U	M	10V	1
C126	403 068 9402	CERAMIC	100P	K	50V	1
C127	403 049 1609	ELECT	1U	M	50V	1
C128	403 069 1207	CERAMIC	1000P	K	50V	1
C129	403 039 7901	ELECT	100U	M	10V	1
C130	403 121 9509	CERAMIC	0.1U	Z	50V	1
C131	403 042 3600	ELECT	100U	M	16V	1
C132	403 042 3600	ELECT	100U	M	16V	1
C133	403 060 8403	POLYESTER	0.033U	K	50V	1
C134	403 060 8403	POLYESTER	0.033U	K	50V	1
C135	403 085 4206	NP-ELECT	10U	M	16V	1
C136	403 085 4206	NP-ELECT	10U	M	16V	1
C137	403 001 4402	CERAMIC	1800P	M	16V	1
C138	403 048 9101	ELECT	0.68U	M	50V	1
C139	403 051 2007	ELECT	4.7U	M	50V	1
C140	403 039 7901	ELECT	100U	M	10V	1
C141	403 050 1209	ELECT	2.2U	M	50V	1
C142	403 068 9402	CERAMIC	100P	K	50V	1
C143	403 073 7004	CERAMIC	470P	K	50V	1
C144	403 072 8200	CERAMIC	330P	K	50V	1
C145	403 072 8200	CERAMIC	330P	K	50V	1
C201	403 073 7004	CERAMIC	470P	K	50V	1
C202	403 073 7004	CERAMIC	470P	K	50V	1
C203	403 073 7004	CERAMIC	470P	K	50V	1
C204	403 041 3304	ELECT	47U	M	10V	1
C205	403 002 1905	CERAMIC	0.01U	K	25V	1
C206	403 051 2007	ELECT	4.7U	M	50V	1
C207	403 003 0600	CERAMIC	0.018U	K	25V	1
C208	403 049 1609	ELECT	1U	M	50V	1
C209	403 004 2504	CERAMIC	0.056U	K	25V	1
C210	403 072 8200	CERAMIC	330P	K	50V	1
C211	403 003 6701	CERAMIC	0.033U	K	25V	1
C212	403 049 1609	ELECT	1U	M	50V	1
C213	403 001 6208	CERAMIC	2700P	M	16V	1
C214	403 049 1609	ELECT	1U	M	50V	1
C215	403 049 1609	ELECT	1U	M	50V	1
C216	403 048 7602	ELECT	0.47U	M	50V	1
C217	403 051 2007	ELECT	4.7U	M	50V	1
C218	403 157 9900	OS-SOLID	0.68U	K	16V	1
C219	403 051 2007	ELECT	4.7U	M	50V	1
C220	403 049 1609	ELECT	1U	M	50V	1
C221	403 050 1209	ELECT	2.2U	M	50V	1
C222	403 072 8200	CERAMIC	330P	K	50V	1
C223	403 001 8905	CERAMIC	6800P	M	16V	1
C224	403 048 3109	ELECT	0.22U	M	50V	1
C225	403 039 7901	ELECT	100U	M	10V	1
C226	403 068 9402	CERAMIC	100P	K	50V	1
C227	403 049 1609	ELECT	1U	M	50V	1
C228	403 069 1207	CERAMIC	1000P	K	50V	1
C229	403 039 7901	ELECT	100U	M	10V	1
C230	403 121 9509	CERAMIC	0.1U	Z	50V	1
C231	403 042 3600	ELECT	100U	M	16V	1
C232	403 042 3600	ELECT	100U	M	16V	1
C233	403 060 8403	POLYESTER	0.033U	K	50V	1
C234	403 060 8403	POLYESTER	0.033U	K	50V	1
C235	403 085 4206	NP-ELECT	10U	M	16V	1
C236	403 085 4206	NP-ELECT	10U	M	16V	1
C237	403 001 4402	CERAMIC	1800P	M	16V	1
C238	403 048 9101	ELECT	0.68U	M	50V	1
C239	403 051 2007	ELECT	4.7U	M	50V	1
C240	403 039 7901	ELECT	100U	M	10V	1
C241	403 050 1209	ELECT	2.2U	M	50V	1
C242	403 068 9402	CERAMIC	100P	K	50V	1
C243	403 073 7004	CERAMIC	470P	K	50V	1
C244	403 072 8200	CERAMIC	330P	K	50V	1
C245	403 072 8200	CERAMIC	330P	K	50V	1
C301	403 039 7901	ELECT	100U	M	10V	1
C302	403 041 0303	ELECT	330U	M	10V	1
C303	403 039 7901	ELECT	100U	M	10V	1
C304	403 040 8508	ELECT	33U	M	10V	1
C305	403 041 3304	ELECT	47U	M	10V	1
C306	403 040 2704	ELECT	22U	M	10V	1
C307	403 040 4807	ELECT	220U	M	10V	1
C308	403 039 7901	ELECT	100U	M	10V	1
C309	403 041 5704	ELECT	470U	M	10V	1
C310	403 043 1100	ELECT	220U	M	16V	1
C311	403 041 5704	ELECT	470U	M	10V	1
C312	403 041 3304	ELECT	47U	M	10V	1
C313	403 039 7901	ELECT	100U	M	10V	1
C314	403 043 1100	ELECT	220U	M	16V	1
C315	403 146 3704	ELECT	6800U	Q	25V	1
C316	403 052 6905	ELECT	10U	M	35V	1
C317	403 042 0302	ELECT	10U	M	16V	1
C318	403 044 3004	ELECT	470U	M	16V	1
C319	403 043 1100	ELECT	220U	M	16V	1
C320	403 042 6205	ELECT	1000U	M	16V	1
C321	403 040 4807	ELECT	220U	M	10V	1
C322	403 040 2704	ELECT	22U	M	10V	1
C323	403 041 3304	ELECT	47U	M	10V	1
C324	403 041 3304	ELECT	47U	M	10V	1
C325	403 082 5503	POLYPRO	8200P	J	100V	1
C326	403 047 9904	ELECT	0.1U	M	50V	1
C327	403 041 3700	ELECT	47U	M	10V	1
C328	403 042 0807	ELECT	10U	M	16V	1
C329	403 040 3008	ELECT	22U	M	10V	1
C330	403 047 9904	ELECT	0.1U	M	50V	1
C331	403 068 9402	CERAMIC	100P	K	50V	1
C332	403 047 9607	ELECT	0.1U	M	50V	1
C333	403 042 0807	ELECT	10U	M	16V	1
C334	403 057 0601	POLYESTER	0.01U	K	50V	1
C335	403 058 3403	POLYESTER	0.015U	K	50V	1
C336	403 049 1609	ELECT	1U	M	50V	1
C337	403 082 1208	POLYPRO	4700P	J	100V	1
C338	403 059 4102	POLYESTER	2200P	K	50V	1
C339	403 058 1607	POLYESTER	1500P	K	50V	1
C340	403 054 0109	ELECT	4.7U	M	35V	1
C341	403 069 1207	CERAMIC	1000P	K	50V	1
R101	401 025 1308	CARBON	150	JA	1/6W	1
R102	401 024 9701	CARBON	12K	JA	1/6W	1
R103	401 025 4606	CARBON	18K	JA	1/6W	1
R104	401 026 9907	CARBON	4.7K	JA	1/6W	1
R105	401 025 7805	CARBON	2.2K	JA	1/6W	1
R106	401 026 4308	CARBON	3.3K	JA	1/6W	1
R107	401 027 0309	CARBON	47K	JA	1/6W	1
R108	401 026 9907	CARBON	4.7K	JA	1/6W	1
R109	401 027 5502	CARBON	6.8K	JA	1/6W	1
R110	401 024 7707	CARBON	100K	JA	1/6W	1
R111	401 026 9907	CARBON	4.7K	JA	1/6W	1
R112	401 027 2600	CARBON	5.6K	JA	1/6W	1
R113	401 024 7707	CARBON	100K	JA	1/6W	1
R114	401 025 7805	CARBON	2.2K	JA	1/6W	1
R115	401 025 7805	CARBON	2.2K	JA	1/6W	1
R116	401 025 1902	CARBON	15K	JA	1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description		Q'ty
R117	401 027 0507	CARBON	470K JA 1/6W	1
R118	401 026 4308	CARBON	3.3K JA 1/6W	1
R119	401 024 7004	CARBON	1K JA 1/6W	1
R120	401 025 8208	CARBON	22K JA 1/6W	1
R121	401 025 4200	CARBON	1.8K JA 1/6W	1
R122	401 025 8208	CARBON	22K JA 1/6W	1
R123	401 027 2600	CARBON	5.6K JA 1/6W	1
R124	401 027 5502	CARBON	6.8K JA 1/6W	1
R125	401 024 7004	CARBON	1K JA 1/6W	1
R126	401 027 8602	CARBON	8.2K JA 1/6W	1
R127	401 026 9907	CARBON	4.7K JA 1/6W	1
R128	401 016 4806	CARBON	22K JA 1/4W	1
R129	401 025 7805	CARBON	2.2K JA 1/6W	1
R130	401 027 0309	CARBON	47K JA 1/6W	1
R131	401 012 7009	CARBON	10K JA 1/4W	1
R132	401 022 7709	CARBON	7.5K JA 1/4W	1
R133	401 025 7805	CARBON	2.2K JA 1/6W	1
R134	401 025 1902	CARBON	15K JA 1/6W	1
R135	401 027 5908	CARBON	68K JA 1/6W	1
R136	401 027 0309	CARBON	47K JA 1/6W	1
R137	401 025 7805	CARBON	2.2K JA 1/6W	1
R138	401 024 6700	CARBON	100 JA 1/6W	1
R139	401 024 7004	CARBON	1K JA 1/6W	1
R140	401 021 0701	CARBON	56 JA 1/4W	1
R141	401 015 6504	CARBON	2.2 JA 1/4W	1
R142	401 015 6504	CARBON	2.2 JA 1/4W	1
R143	401 153 9207	OXIDE-MT	0.1 JB 1/2W	1
R144	401 025 5405	CARBON	2.2 JA 1/6W	1
R145	401 024 7004	CARBON	1K JA 1/6W	1
R146	401 053 1301	MT-FILM	22K FA 1/6W	1
R147	401 053 1301	MT-FILM	22K FA 1/6W	1
R148	401 095 0409	MT-FILM	47K FA 1/6W	1
R149	401 095 0409	MT-FILM	47K FA 1/6W	1
R150	401 053 1301	MT-FILM	22K FA 1/6W	1
R151	401 027 0507	CARBON	470K JA 1/6W	1
R152	401 027 5908	CARBON	68K JA 1/6W	1
R153	401 026 9907	CARBON	4.7K JA 1/6W	1
R154	401 025 7805	CARBON	2.2K JA 1/6W	1
R155	401 026 9907	CARBON	4.7K JA 1/6W	1
R156	401 025 1902	CARBON	15K JA 1/6W	1
R157	401 024 7004	CARBON	1K JA 1/6W	1
R158	401 027 0309	CARBON	47K JA 1/6W	1
R159	401 024 7004	CARBON	1K JA 1/6W	1
R160	401 054 7500	OXIDE-MT	10 JB 1/2W	1
R161	401 026 4308	CARBON	3.3K JA 1/6W	1
R162	401 026 4308	CARBON	3.3K JA 1/6W	1
R201	401 025 1308	CARBON	150 JA 1/6W	1
R202	401 024 9701	CARBON	12K JA 1/6W	1
R203	401 025 4606	CARBON	18K JA 1/6W	1
R204	401 026 9907	CARBON	4.7K JA 1/6W	1
R205	401 025 7805	CARBON	2.2K JA 1/6W	1
R206	401 026 4308	CARBON	3.3K JA 1/6W	1
R207	401 027 0309	CARBON	47K JA 1/6W	1
R208	401 026 9907	CARBON	4.7K JA 1/6W	1
R209	401 027 5502	CARBON	6.8K JA 1/6W	1
R210	401 012 8105	CARBON	100K JA 1/4W	1
R211	401 026 9907	CARBON	4.7K JA 1/6W	1
R212	401 027 2600	CARBON	5.6K JA 1/6W	1
R213	401 024 7707	CARBON	100K JA 1/6W	1
R214	401 025 7805	CARBON	2.2K JA 1/6W	1
R215	401 025 7805	CARBON	2.2K JA 1/6W	1
R216	401 025 1902	CARBON	15K JA 1/6W	1
R217	401 027 0507	CARBON	470K JA 1/6W	1
R218	401 026 4308	CARBON	3.3K JA 1/6W	1
R219	401 024 7004	CARBON	1K JA 1/6W	1
R220	401 025 8208	CARBON	22K JA 1/6W	1
R221	401 025 4200	CARBON	1.8K JA 1/6W	1
R222	401 025 8208	CARBON	22K JA 1/6W	1
R223	401 027 2600	CARBON	5.6K JA 1/6W	1
R224	401 027 5502	CARBON	6.8K JA 1/6W	1
R225	401 024 7004	CARBON	1K JA 1/6W	1
R226	401 027 8602	CARBON	8.2K JA 1/6W	1
R227	401 026 9907	CARBON	4.7K JA 1/6W	1
R228	401 016 4806	CARBON	22K JA 1/4W	1
R229	401 025 7805	CARBON	2.2K JA 1/6W	1
R230	401 027 0309	CARBON	47K JA 1/6W	1
R231	401 012 7009	CARBON	10K JA 1/4W	1
R232	401 022 7709	CARBON	7.5K JA 1/4W	1
R233	401 025 7805	CARBON	2.2K JA 1/6W	1
R234	401 025 1902	CARBON	15K JA 1/6W	1
R235	401 027 5908	CARBON	68K JA 1/6W	1
R236	401 027 0309	CARBON	47K JA 1/6W	1
R237	401 025 7805	CARBON	2.2K JA 1/6W	1
R238	401 024 6700	CARBON	100 JA 1/6W	1
R239	401 024 7004	CARBON	1K JA 1/6W	1
R240	401 021 0701	CARBON	56 JA 1/4W	1
R241	401 015 6504	CARBON	2.2 JA 1/4W	1
R242	401 015 6504	CARBON	2.2 JA 1/4W	1
R243	401 153 9207	OXIDE-MT	0.1 JB 1/2W	1
R244	401 025 5405	CARBON	2.2 JA 1/6W	1
R245	401 024 7004	CARBON	1K JA 1/6W	1
R246	401 053 1301	MT-FILM	22K FA 1/6W	1
R247	401 053 1301	MT-FILM	22K FA 1/6W	1
R248	401 095 0409	MT-FILM	47K FA 1/6W	1
R249	401 095 0409	MT-FILM	47K FA 1/6W	1
R250	401 053 1301	MT-FILM	22K FA 1/6W	1
R251	401 027 0507	CARBON	470K JA 1/6W	1
R252	401 027 5908	CARBON	68K JA 1/6W	1
R253	401 026 9907	CARBON	4.7K JA 1/6W	1
R254	401 025 7805	CARBON	2.2K JA 1/6W	1
R255	401 026 9907	CARBON	4.7K JA 1/6W	1
R256	401 025 1902	CARBON	15K JA 1/6W	1
R257	401 024 7004	CARBON	1K JA 1/6W	1
R258	401 027 0309	CARBON	47K JA 1/6W	1
R259	401 024 7004	CARBON	1K JA 1/6W	1
R260	401 054 7500	OXIDE-MT	10 JB 1/2W	1
R261	401 026 4308	CARBON	3.3K JA 1/6W	1
R262	401 026 4308	CARBON	3.3K JA 1/6W	1
R301	401 024 7707	CARBON	100K JA 1/6W	1
R302	401 024 7707	CARBON	100K JA 1/6W	1
R303	401 019 1000	CARBON	390 JA 1/4W	1
R304	401 027 0309	CARBON	47K JA 1/6W	1
R305	401 024 6700	CARBON	100 JA 1/6W	1
R306	401 024 7707	CARBON	100K JA 1/6W	1
R307	401 024 7400	CARBON	10K JA 1/6W	1
R308	401 026 4308	CARBON	3.3K JA 1/6W	1
R309	401 025 7805	CARBON	2.2K JA 1/6W	1
R310	401 025 7805	CARBON	2.2K JA 1/6W	1
R311	401 024 7400	CARBON	10K JA 1/6W	1
R313	401 012 9904	CARBON	10M JA 1/4W	1
R314	401 016 2604	CARBON	220 JA 1/4W	1
R315	401 018 2800	CARBON	330 JA 1/4W	1
R316	401 026 9006	CARBON	43K JA 1/6W	1
R317	401 024 7400	CARBON	10K JA 1/6W	1
R318	401 024 7400	CARBON	10K JA 1/6W	1
R319	401 024 7400	CARBON	10K JA 1/6W	1
R320	401 026 3905	CARBON	330 JA 1/6W	1
R321	401 025 7102	CARBON	22 JA 1/6W	1
R322	401 026 4902	CARBON	330K JA 1/6W	1
R323	401 025 7805	CARBON	2.2K JA 1/6W	1
R324	401 027 0309	CARBON	47K JA 1/6W	1
R325	401 026 9907	CARBON	4.7K JA 1/6W	1
R326	401 024 7707	CARBON	100K JA 1/6W	1
R327	401 027 0309	CARBON	47K JA 1/6W	1
R328	401 018 1605	CARBON	33 JA 1/4W	1
R329	401 025 8208	CARBON	22K JA 1/6W	1
R330	401 026 4308	CARBON	3.3K JA 1/6W	1
R331	401 025 8208	CARBON	22K JA 1/6W	1
R332	401 014 2903	CARBON	150 JA 1/4W	1
R333	401 026 4308	CARBON	3.3K JA 1/6W	1
R334	401 026 4605	CARBON	33K JA 1/6W	1
R335	401 027 5007	CARBON	68 JA 1/6W	1
R336	401 024 7400	CARBON	10K JA 1/6W	1
R337	401 027 3706	CARBON	6.8 JA 1/6W	1
R338	401 012 7009	CARBON	10K JA 1/4W	1
R339	401 026 9907	CARBON	4.7K JA 1/6W	1
R340	401 026 4605	CARBON	33K JA 1/6W	1
R341	401 026 4605	CARBON	33K JA 1/6W	1
R342	401 024 7707	CARBON	100K JA 1/6W	1
R343	401 024 7400	CARBON	10K JA 1/6W	1
R344	401 027 0507	CARBON	470K JA 1/6W	1
R345	401 018 2800	CARBON	330 JA 1/4W	1
R346	401 018 2800	CARBON	330 JA 1/4W	1
R347	401 020 0801	CARBON	470 JA 1/4W	1
R348	401 025 8208	CARBON	22K JA 1/6W	1
R349	401 020 0801	CARBON	470 JA 1/4W	1
R350	401 025 8208	CARBON	22K JA 1/6W	1
R351	401 024 7400	CARBON	10K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R352	401 023 1706	CARBON 820 JA 1/4W	1
R353	401 023 1706	CARBON 820 JA 1/4W	1
R354	401 026 4605	CARBON 33K JA 1/6W	1
R355	401 025 7805	CARBON 2.2K JA 1/6W	1
R356	401 025 7805	CARBON 2.2K JA 1/6W	1
R357	401 027 5205	CARBON 680 JA 1/6W	1
R358	401 025 0004	CARBON 120K JA 1/6W	1
R359	401 026 6104	CARBON 36K JA 1/6W	1
R360	401 024 7707	CARBON 100K JA 1/6W	1
R361	401 026 6104	CARBON 36K JA 1/6W	1
R362	401 025 8703	CARBON 220K JA 1/6W	1
R363	401 027 1801	CARBON 51K JA 1/6W	1
R364	401 024 7707	CARBON 100K JA 1/6W	1
R365	401 027 4604	CARBON 62K JA 1/6W	1
R366	401 025 0905	CARBON 130K JA 1/6W	1
R367	401 026 3202	CARBON 30K JA 1/6W	1
R368	401 026 1307	CARBON 27K JA 1/6W	1
R369	401 026 6104	CARBON 36K JA 1/6W	1
R370	401 027 5908	CARBON 68K JA 1/6W	1
R371	401 026 7408	CARBON 39K JA 1/6W	1
R372	401 026 6104	CARBON 36K JA 1/6W	1
R373	401 026 3202	CARBON 30K JA 1/6W	1
R374	401 027 7407	CARBON 75K JA 1/6W	1
R375	401 026 1307	CARBON 27K JA 1/6W	1
R376	401 027 7407	CARBON 75K JA 1/6W	1
R377	401 028 0308	CARBON 91K JA 1/6W	1
R378	401 024 7707	CARBON 100K JA 1/6W	1
R379	401 024 7707	CARBON 100K JA 1/6W	1
R380	401 027 4604	CARBON 62K JA 1/6W	1
R381	401 024 7707	CARBON 100K JA 1/6W	1
R382	401 026 0003	CARBON 24K JA 1/6W	1
R383	401 027 0309	CARBON 47K JA 1/6W	1
R384	401 016 4806	CARBON 22K JA 1/4W	1
R385	401 016 4806	CARBON 22K JA 1/4W	1
R386	401 016 4806	CARBON 22K JA 1/4W	1
R387	401 025 8208	CARBON 22K JA 1/6W	1
R388	401 025 8208	CARBON 22K JA 1/6W	1
R389	401 025 8208	CARBON 22K JA 1/6W	1
R390	401 025 1605	CARBON 1.5K JA 1/6W	1
R391	401 027 0309	CARBON 47K JA 1/6W	1
R392	401 024 7004	CARBON 1K JA 1/6W	1
R393	401 027 0309	CARBON 47K JA 1/6W	1
R394	401 024 7004	CARBON 1K JA 1/6W	1
R395	401 027 0309	CARBON 47K JA 1/6W	1
R396	401 025 1605	CARBON 1.5K JA 1/6W	1
R397	401 027 0309	CARBON 47K JA 1/6W	1
R398	401 024 7004	CARBON 1K JA 1/6W	1
R399	401 027 0309	CARBON 47K JA 1/6W	1
R400	401 024 7004	CARBON 1K JA 1/6W	1
R401	401 025 7805	CARBON 2.2K JA 1/6W	1
R402	401 027 5502	CARBON 6.8K JA 1/6W	1
R403	401 027 5502	CARBON 6.8K JA 1/6W	1
R404	401 016 4806	CARBON 22K JA 1/4W	1
R405	401 053 4708	MT-FILM 6.8K FA 1/6W	1
R406	401 026 9907	CARBON 4.7K JA 1/6W	1
R407	401 026 1000	CARBON 2.7K JA 1/6W	1
R408	401 026 1000	CARBON 2.7K JA 1/6W	1
R409	401 027 1603	CARBON 5.1K JA 1/6W	1
R410	401 026 9907	CARBON 4.7K JA 1/6W	1
R411	401 022 0809	CARBON 68 JA 1/4W	1
R412	401 022 0809	CARBON 68 JA 1/4W	1
R413	401 022 0809	CARBON 68 JA 1/4W	1
R414	401 026 0607	CARBON 270 JA 1/6W	1
R415	401 024 7707	CARBON 100K JA 1/6W	1
R416	401 024 7707	CARBON 100K JA 1/6W	1
R417	401 026 9907	CARBON 4.7K JA 1/6W	1
R418	401 025 8208	CARBON 22K JA 1/6W	1
R419	401 024 7707	CARBON 100K JA 1/6W	1

ASSY,PCB,GRAPHIC EQ.

Ref. No.	Part No.	Description	Q'ty
62	620 201 3251	Assy,PCB,Graphic EQ.	1
	620 202 7265	Assy,Connector-S,5P	1
	620 190 6400	Connector 3P Assy	1
CN441	620 021 8597	Plug 4P	1
CN442	620 021 8597	Plug 4P	1
VR441	620 201 3602	VR,Slide,2X50KW	1
VR442	620 201 3602	VR,Slide,2X50KW	1
VR443	620 201 3602	VR,Slide,2X50KW	1
VR444	620 201 3619	VR,Slide,2X50KMN	1

Ref. No.	Part No.	Description	Q'ty
VR445 15	620 201 6207	VR,Rotary,Motor 2X50KG ✓	1
VR446 15	620 201 2667	VR,Rotary,2X50KB Motor ✓	1
W441	620 024 3551	Flat Wire 3	1
IC441 10	409 068 2009	IC BA3824LS ✓	1
IC442 – 2	409 020 6908	IC LC4011B ✓	1
or 10	409 030 4000	IC MC14011B ✓	1
Q441	405 018 0101	TR 2SC3331-T-AA	1
Q442	405 018 0101	TR 2SC3331-T-AA	1
Q443	405 017 9600	TR 2SC3330-T-AC	1
Q444	405 017 9600	TR 2SC3330-T-AC	1
Q445	405 017 9600	TR 2SC3330-T-AC	1
Q446 20	405 003 5302	TR 2SA1317-T-AC ✓	1
Q447	405 003 5302	TR 2SA1317-T-AC	1
Q448	405 003 5302	TR 2SA1317-T-AC	1
D441 20	407 063 9504	ZENER DIODE MTZJ8.2B-T-77 ✓	1
C441	403 041 5704	ELECT 470U M 10V	1
C442	403 047 9607	ELECT 0.1U M 50V	1
C443	403 001 6604	CERAMIC 3300P M 16V	1
C444	403 004 5505	CERAMIC 8200P K 25V	1
C445	403 048 5400	ELECT 0.33U M 50V	1
C446	403 042 0302	ELECT 10U M 16V	1
C447	403 040 4807	ELECT 220U M 10V	1
C711	403 001 8905	CERAMIC 6800P M 16V	1
C712	403 071 6207	CERAMIC 220P K 50V	1
C713	403 003 6701	CERAMIC 0.033U K 25V	1
C714	403 069 1207	CERAMIC 1000P K 50V	1
C715	403 048 3109	ELECT 0.22U M 50V	1
C716	403 001 6604	CERAMIC 3300P M 16V	1
C717	403 048 7909	ELECT 0.47U M 50V	1
C718	403 003 8705	CERAMIC 0.039U K 25V	1
C719	403 049 2002	ELECT 1U M 50V	1
C720	403 051 2007	ELECT 4.7U M 50V	1
C721	403 051 2007	ELECT 4.7U M 50V	1
C722	403 001 5102	CERAMIC 2200P M 16V	1
C723	403 067 5603	MT-COMPO 0.1U J 50V	1
C724	403 069 1207	CERAMIC 1000P K 50V	1
C811	403 001 8905	CERAMIC 6800P M 16V	1
C812	403 071 6207	CERAMIC 220P K 50V	1
C813	403 003 6701	CERAMIC 0.033U K 25V	1
C814	403 069 1207	CERAMIC 1000P K 50V	1
C815	403 048 3109	ELECT 0.22U M 50V	1
C816	403 001 6604	CERAMIC 3300P M 16V	1
C817	403 048 7909	ELECT 0.47U M 50V	1
C818	403 003 8705	CERAMIC 0.039U K 25V	1
C819	403 049 2002	ELECT 1U M 50V	1
C820	403 051 2304	ELECT 4.7U M 50V	1
C821	403 051 2304	ELECT 4.7U M 50V	1
C822	403 001 5102	CERAMIC 2200P M 16V	1
C823	403 067 5603	MT-COMPO 0.1U J 50V	1
C824	403 069 1207	CERAMIC 1000P K 50V	1
R441	401 025 7409	CARBON 220 JA 1/6W	1
R442	401 027 5205	CARBON 680 JA 1/6W	1
R444	401 026 4308	CARBON 3.3K JA 1/6W	1
R445	401 027 0507	CARBON 470K JA 1/6W	1
R446	401 026 9600	CARBON 470 JA 1/6W	1
R447	401 027 8602	CARBON 8.2K JA 1/6W	1
R448	401 027 5205	CARBON 680 JA 1/6W	1
R449	401 027 5205	CARBON 680 JA 1/6W	1
R450	401 024 7707	CARBON 100K JA 1/6W	1
R451	401 024 7707	CARBON 100K JA 1/6W	1
R452	401 024 7707	CARBON 100K JA 1/6W	1
R453	401 024 7707	CARBON 100K JA 1/6W	1
R454	401 027 5205	CARBON 680 JA 1/6W	1
R455	401 027 0309	CARBON 47K JA 1/6W	1
R456	401 025 1605	CARBON 1.5K JA 1/6W	1
R711	401 024 7707	CARBON 100K JA 1/6W	1
R712	401 025 7805	CARBON 2.2K JA 1/6W	1
R713	401 024 7004	CARBON 1K JA 1/6W	1
R714	401 027 2600	CARBON 5.6K JA 1/6W	1
R715	401 027 8602	CARBON 8.2K JA 1/6W	1
R716	401 025 1902	CARBON 15K JA 1/6W	1
R811	401 024 7707	CARBON 100K JA 1/6W	1
R812	401 025 7805	CARBON 2.2K JA 1/6W	1
R813	401 024 7004	CARBON 1K JA 1/6W	1
R814	401 027 2600	CARBON 5.6K JA 1/6W	1
R815	401 027 8602	CARBON 8.2K JA 1/6W	1
R816	401 025 1902	CARBON 15K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,MOTOR			
63 ✓	620 201 3268	Assy,PCB,Motor	1
C461	403 085 4206	NP-ELECT 10U M 16V	1
C462	403 085 4206	NP-ELECT 10U M 16V	1
R461	401 026 0409	CARBON 27 JA 1/6W	1
ASSY,PCB,POWER,SUPPLY			
64 ✓	620 207 8946	Assy,PCB,Power,Supply	1
	620 198 1018	Socket,AC	1
	620 053 9241	Plate Heat Sink	1
	620 017 2721	Fuse Clip	6
	620 120 7019	Plate Heat Sink	1
	411 023 9800	SCR S-TPG PAN 3X8	1
	411 023 4508	SCR S-TPG PAN 3X12	1
	620 182 8658	Ring Terminal Assy	1
	620 125 8165	Staple 10	2
	620 125 8288	Staple 15	1
	620 196 4943	Label,Fuse	1
	620 206 2129	Label,Fuse	1
CN431	620 021 1970	Plug 2P	1
CN432	620 021 8313	Plug 3P	1
CN433	620 021 8597	Plug 4P	1
F431 ⚠	423 007 2103	FUSE 250V 4A ✓	1
F432 ⚠	423 003 9809	FUSE 250V 0.63A ✓	1
F433 ⚠	423 003 9809	FUSE 250V 0.63A	1
S431 ⚠	620 015 4017	Voltage Selector	1
Q431	405 024 4100	TR 2SD612-E	1
or	405 022 8209	TR 2SD1682-T	1
D431	407 003 7904	DIODE DBA40C-K15 ✓	1
D433 20	407 099 6706	ZENER DIODE MTZJ13A ✓	1
C431	403 044 0300	ELECT 47U M 16V	1
C432	403 045 0606	ELECT 100U M 25V	1
C433	403 072 2703	CERAMIC 0.022U Z 50V	1
C434	403 044 0300	ELECT 47U M 16V	1
C435	403 074 2701	CERAMIC 0.047U Z 50V	1
C436	403 074 2701	CERAMIC 0.047U Z 50V	1
C437	403 074 2701	CERAMIC 0.047U Z 50V	1
C438	403 074 2701	CERAMIC 0.047U Z 50V	1
C439	403 072 2703	CERAMIC 0.022U Z 50V	1
R431	401 012 5708	CARBON 1K JA 1/4W	1
R432	402 015 2909	FUSIBLE RES 1 J- 1/4W	1
ASSY.PCB.LED			
65	620 201 7037	Assy,PCB.LED	2
	407 027 1605	LED SLP-144B	1
ASSY,PCB.CD			
66 ✓	620 201 7587	Assy,PCB,CD	1
	411 020 7700	SCR S-TPG BRZ 3X6	1
	620 053 9241	Plate Heat Sink	1
CN501	620 202 8453	Assy,Connector-S,3P	1
CN502	620 202 8446	Assy,Connector-S,3P	1
L501	620 026 8752	RF Low Pass Filter	1
or	620 026 8745	RF Filter	1
or	620 026 8769	RF Filter	1
L502	620 028 8699	OSC Coil	1
or	620 028 8774	OSC Coil	1
or	620 028 8781	OSC Coil	1
PL501	620 021 8337	Plug 6P	1
PL502	620 021 8610	Plug 6P	1
PL503	620 021 8597	Plug 4P	1
PL504	620 021 8306	Plug 2P	1
PL505	620 021 8443	Plug 8P	1
PL506	620 021 8443	Plug 8P	1
PL507	620 021 8597	Plug 4P	1
PL508	620 021 8757	Plug 2P	1
P501	620 006 2343	Potentiometer 100KB	1
P502	620 006 1957	Potentiometer 20KB	1
P503	620 006 1957	Potentiometer 20KB	1
P504	620 006 1933	Potentiometer 100KB	1
P505	620 006 1940	Potentiometer 10KB	1
RB501	620 191 8106	Resistor 5X22K ✓	1
S501 15	620 015 3621	Leaf Switch ✓	1
W601	620 203 8629	Assy,Receptacle,1P	1
W602	620 203 2498	Assy,Receptacle,1P	1
X501 15	620 200 8967	Resonator,Xtal,17.2872MHz ✓	1
IC501 10	409 202 5804	IC LC7860K ✓	1
IC502	409 124 6507	IC LA9200NM	1
IC503	409 123 7109	IC LC3517BS-15	1

Ref. No.	Part No.	Description	Q'ty
IC504	409 199 2107	IC LC97000A-288 10 ✓	1
IC505	409 070 4909	IC NJM2068S-D 10 ✓	1
IC506	409 070 4909	IC NJM2068S-D 10 ✓	1
IC507	409 070 4909	IC NJM2068S-D ✓	1
IC508	409 003 9407	IC BU4052B 10 ✓	1
or	409 030 5700	IC MC14052BCP	1
IC509	409 070 5005	IC NJM2072D 10 ✓	1
IC510	409 030 4307	IC MC14013BCP 10 ✓	1
or	409 050 9009	IC TC4013BP	1
IC511	409 070 4909	IC NJM2068S-D ✓	1
IC512	409 077 8900	IC L780S05 10 ✓	1
IC513	409 040 1105	IC NJM79L05A 10 ✓	1
IC514	409 018 5500	IC LA6510	1
IC515	409 018 5500	IC LA6510	1
Q501	405 021 0600	TR 2SD1012-G-SPA-AC ✓	1
Q502	405 017 9600	TR 2SC3330-T-AC 20 ✓	1
Q504	405 008 6809	TR 2SB808-F-SPA-AC 20 ✓	1
Q505	405 096 0000	TR DTA124-EL-TL2 20 ✓	1
or	405 034 7702	TR DTA124-EF	1
Q506	405 003 5302	TR 2SA1317-T-AC	1
Q507	405 018 2600	TR 2SC3400-AC 20 ✓	1
Q508	405 018 2600	TR 2SC3400-AC	1
Q509	405 003 5302	TR 2SA1317-T-AC	1
Q510	405 018 2600	TR 2SC3400-AC	1
Q515	405 096 5708	TR DTC114-TL-TL2 20 ✓	1
or	405 034 9201	TR DTC114-TF	1
Q516	405 096 5708	TR DTC114-TL-TL2	1
or	405 034 9201	TR DTC114-TF	1
Q517	405 096 5807	TR DTC144-WL-TL2 20 ✓	1
or	405 000 6401	TR DTC144WF	1
Q518	405 095 9905	TR DTC124-EL-TL2	1
or	405 034 9805	TR DTC124-F	1
Q519	405 095 9905	TR DTC124-EL-TL2	1
or	405 034 9805	TR DTC124-F	1
Q520	405 096 5708	TR DTC114-TL-TL2	1
or	405 034 9201	TR DTC114-TF	1
Q521	405 096 5708	TR DTC114-TL-TL2	1
or	405 034 9201	TR DTC114-TF	1
Q522	405 003 5302	TR 2SA1317-T-AC	1
Q523	405 017 9600	TR 2SC3330-T-AC	1
Q524	405 096 0000	TR DTA124-EL-TL2	1
or	405 034 7702	TR DTA124-EF	1
D500	407 000 3503	VARACTOR DI SVC211SP	1
D501	407 008 0405	DIODE GMB01-BT	1
D502	407 008 0405	DIODE GMB01-BT	1
D503	407 008 0405	DIODE GMB01-BT	1
D504	407 005 3805	DIODE DS442-BT	1
D505	407 005 3805	DIODE DS442-BT	1
D506	407 008 0405	DIODE GMB01-BT	1
D508	407 008 0405	DIODE GMB01-BT	1
D509	407 008 0405	DIODE GMB01-BT	1
D510	407 008 0405	DIODE GMB01-BT	1
D511	407 005 3805	DIODE DS442-BT	1
D512	407 127 5008	ZENER DIODE MTZJ2.2B-T-77	1
D513	407 008 0405	DIODE GMB01-BT	1
D514	407 008 0405	DIODE GMB01-BT	1
D515	407 008 0405	DIODE GMB01-BT	1
D516	407 008 0405	DIODE GMB01-BT	1
D518	407 008 0405	DIODE GMB01-BT	1
D519	407 008 0405	DIODE GMB01-BT	1
D520	407 008 0405	DIODE GMB01-BT	1
D522	407 005 2806	DIODE DS135TD-KB3 20 ✓	1
D523	407 005 2808	DIODE DS135TD-KB3	1
D524	407 005 2808	DIODE DS135TD-KB3	1
D525	407 005 2808	DIODE DS135TD-KB3	1
D526	407 063 8606	ZENER DIODE MTZJ5.1A 20 ✓	1
D527	407 008 0405	DIODE GMB01-BT	1
D528	407 008 0405	DIODE GMB01-BT	1
D529	407 008 0405	DIODE GMB01-BT	1
D530	407 008 0405	DIODE GMB01-BT	1
D531	407 008 0405	DIODE GMB01-BT	1
D532	407 008 0405	DIODE GMB01-BT	1
C501	403 022 7703	CERAMIC 33P J 50V	1
C502	403 022 7703	CERAMIC 33P J 50V	1
C503	403 121 9509	CERAMIC 0.1U Z 50V	1
C504	403 121 9509	CERAMIC 0.1U Z 50V	1
C505	403 042 0302	ELECT 10U M 16V	1
C506	403 003 3700	CERAMIC 0.022U Z 25V	1
C507	403 030 6309	CERAMIC 68P J 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C508	403 030 6309	CERAMIC	68P	J	50V	1
C509	403 071 2001	CERAMIC	180P	K	50V	1
C510	403 048 7602	ELECT	0.47U	M	50V	1
C511	403 071 6207	CERAMIC	220P	K	50V	1
C512	403 004 0500	CERAMIC	0.047U	K	25V	1
C513	403 087 2507	STYRENE	1000P	J	50V	1
C514	403 074 9205	CERAMIC	680P	K	50V	1
C515	403 001 1906	CERAMIC	0.01U	M	16V	1
C516	403 121 9509	CERAMIC	0.1U	Z	50V	1
C517	403 001 1906	CERAMIC	0.01U	M	16V	1
C518	403 121 9509	CERAMIC	0.1U	Z	50V	1
C519	403 121 9509	CERAMIC	0.1U	Z	50V	1
C520	403 121 9509	CERAMIC	0.1U	Z	50V	1
C521	403 121 9509	CERAMIC	0.1U	Z	50V	1
C523	403 001 1906	CERAMIC	0.01U	M	16V	1
C524	403 069 1207	CERAMIC	1000P	K	50V	1
C525	403 067 6204	MT-COMPO	0.15U	J	50V	1
C526	403 067 6709	MT-COMPO	0.22U	J	50V	1
C527	403 067 7300	MT-COMPO	0.33U	J	50V	1
C528	403 039 2906	ELECT	47U	M	6.3V	1
C530	403 071 6207	CERAMIC	220P	K	50V	1
C531	403 067 5603	MT-COMPO	0.1U	J	50V	1
C532	403 025 7304	CERAMIC	4.7P	K	50V	1
C533	403 086 1907	NP-ELECT	0.47U	M	50V	1
C534	403 073 7004	CERAMIC	470P	K	50V	1
C535	403 067 8208	MT-COMPO	0.068U	J	50V	1
C536	403 073 7004	CERAMIC	470P	K	50V	1
C537	403 067 5603	MT-COMPO	0.1U	J	50V	1
C538	403 042 0302	ELECT	10U	M	16V	1
C539	403 038 2303	ELECT	100U	M	6.3V	1
C540	403 001 1906	CERAMIC	0.01U	M	16V	1
C541	403 067 5603	MT-COMPO	0.1U	J	50V	1
C542	403 001 1906	CERAMIC	0.01U	M	16V	1
C543	403 001 1906	CERAMIC	0.01U	M	16V	1
C544	403 073 7004	CERAMIC	470P	K	50V	1
C545	403 073 7004	CERAMIC	470P	K	50V	1
C546	403 086 5509	NP-ELECT	2.2U	M	50V	1
C547	403 086 5509	NP-ELECT	2.2U	M	50V	1
C548	403 067 5603	MT-COMPO	0.1U	J	50V	1
C549	403 067 5603	MT-COMPO	0.1U	J	50V	1
C550	403 047 1502	ELECT	4.7U	M	25V	1
C551	403 121 9509	CERAMIC	0.1U	Z	50V	1
C552	403 003 3700	CERAMIC	0.022U	Z	25V	1
C553	403 121 9509	CERAMIC	0.1U	Z	50V	1
C554	403 047 1502	ELECT	4.7U	M	25V	1
C555	403 042 0302	ELECT	10U	M	16V	1
C556	403 042 0302	ELECT	10U	M	16V	1
C562	403 121 9509	CERAMIC	0.1U	Z	50V	1
C563	403 121 9509	CERAMIC	0.1U	Z	50V	1
C567	403 072 4707	CERAMIC	270P	K	50V	1
C568	403 072 4707	CERAMIC	270P	K	50V	1
C569	403 069 1207	CERAMIC	1000P	K	50V	1
C570	403 069 1207	CERAMIC	1000P	K	50V	1
C571	403 047 1809	ELECT	4.7U	M	25V	1
C572	403 047 1809	ELECT	4.7U	M	25V	1
C573	403 042 0302	ELECT	10U	M	16V	1
C574	403 042 0302	ELECT	10U	M	16V	1
C575	403 121 9509	CERAMIC	0.1U	Z	50V	1
C576	403 121 9509	CERAMIC	0.1U	Z	50V	1
C577	403 121 9509	CERAMIC	0.1U	Z	50V	1
C578	403 069 1207	CERAMIC	1000P	K	50V	1
C579	403 069 1207	CERAMIC	1000P	K	50V	1
C580	403 070 4105	CERAMIC	120P	K	50V	1
C581	403 070 4105	CERAMIC	120P	K	50V	1
C582	403 121 9509	CERAMIC	0.1U	Z	50V	1
C583	403 009 1809	CERAMIC	10P	J	50V	1
C584	403 009 1809	CERAMIC	10P	J	50V	1
C585	403 050 1209	ELECT	2.2U	M	50V	1
C601	403 003 3700	CERAMIC	0.022U	Z	25V	1
C602	620 006 6808	Capacitor 2200MF 16V				1
or	404 046 7809	ELECT	2200U	M	16V	1
C603	620 006 6808	Capacitor 2200MF 16V				1
or	404 046 7809	ELECT	2200U	M	16V	1
C604	403 074 2701	CERAMIC	0.047U	Z	50V	1
C605	403 074 2701	CERAMIC	0.047U	Z	50V	1
C606	403 074 2701	CERAMIC	0.047U	Z	50V	1
C607	403 074 2701	CERAMIC	0.047U	Z	50V	1
C608	403 121 9509	CERAMIC	0.1U	Z	50V	1
C609	403 042 0302	ELECT	10U	M	16V	1

Ref. No.	Part No.	Description				Q'ty
C610	403 047 4305	ELECT	47U	M	25V	1
C611	403 069 1207	CERAMIC	1000P	K	50V	1
C613	403 042 0302	ELECT	10U	M	16V	1
C614	403 121 9509	CERAMIC	0.1U	Z	50V	1
C615	403 047 4305	ELECT	47U	M	25V	1
C616	403 001 1906	CERAMIC	0.01U	M	16V	1
C617	403 038 7209	ELECT	220U	M	6.3V	1
C620	403 069 1207	CERAMIC	1000P	K	50V	1
C621	403 003 3700	CERAMIC	0.022U	Z	25V	1
C622	403 121 9509	CERAMIC	0.1U	Z	50V	1
C623	403 042 0302	ELECT	10U	M	16V	1
C624	403 001 1906	CERAMIC	0.01U	M	16V	1
C630	403 071 6207	CERAMIC	220P	K	50V	1
C631	403 003 3700	CERAMIC	0.022U	Z	25V	1
C632	403 071 6207	CERAMIC	220P	K	50V	1
C633	403 071 6207	CERAMIC	220P	K	50V	1
C634	403 069 1207	CERAMIC	1000P	K	50V	1
C635	403 069 1207	CERAMIC	1000P	K	50V	1
C636	403 003 3700	CERAMIC	0.022U	Z	25V	1
R501	401 024 7004	CARBON	1K	JA	1/6W	1
R502	401 024 7004	CARBON	1K	JA	1/6W	1
R503	401 026 4605	CARBON	33K	JA	1/6W	1
R504	401 027 2600	CARBON	5.6K	JA	1/6W	1
R505	401 024 8001	CARBON	1M	JA	1/6W	1
R506	401 024 7707	CARBON	100K	JA	1/6W	1
R507	401 024 7707	CARBON	100K	JA	1/6W	1
R508	401 024 7400	CARBON	10K	JA	1/6W	1
R509	401 026 4308	CARBON	3.3K	JA	1/6W	1
R510	401 026 9907	CARBON	4.7K	JA	1/6W	1
R511	401 025 7409	CARBON	220	JA	1/6W	1
R512	401 025 8208	CARBON	22K	JA	1/6W	1
R513	401 024 7004	CARBON	1K	JA	1/6W	1
R514	401 025 1902	CARBON	15K	JA	1/6W	1
R515	401 025 7805	CARBON	2.2K	JA	1/6W	1
R516	401 027 2303	CARBON	560	JA	1/6W	1
R517	401 026 9907	CARBON	4.7K	JA	1/6W	1
R518	401 026 9600	CARBON	470	JA	1/6W	1
R519	401 025 7805	CARBON	2.2K	JA	1/6W	1
R520	401 024 7707	CARBON	100K	JA	1/6W	1
R521	401 024 7707	CARBON	100K	JA	1/6W	1
R522	401 024 7400	CARBON	10K	JA	1/6W	1
R523	401 025 7805	CARBON	2.2K	JA	1/6W	1
R524	401 025 3807	CARBON	180	JA	1/6W	1
R525	401 026 7408	CARBON	39K	JA	1/6W	1
R526	401 024 9701	CARBON	12K	JA	1/6W	1
R527	401 026 7408	CARBON	39K	JA	1/6W	1
R528	401 025 1902	CARBON	15K	JA	1/6W	1
R529	401 026 1307	CARBON	27K	JA	1/6W	1
R530	401 025 8703	CARBON	220K	JA	1/6W	1
R531	401 025 8703	CARBON	220K	JA	1/6W	1
R532	401 027 0309	CARBON	47K	JA	1/6W	1
R533	401 016 5803	CARBON	220K	JA	1/4W	1
R534	401 016 5803	CARBON	220K	JA	1/4W	1
R535	401 025 0004	CARBON	120K	JA	1/6W	1
R536	401 026 4605	CARBON	33K	JA	1/6W	1
R537	401 024 6700	CARBON	100	JA	1/6W	1
R538	401 025 4606	CARBON	18K	JA	1/6W	1
R539	401 020 2904	CARBON	47K	JA	1/4W	1
R540	401 015 4708	CARBON	180K	JA	1/4W	1
R541	401 026 1307	CARBON	27K	JA	1/6W	1
R542	401 026 4902	CARBON	330K	JA	1/6W	1
R543	401 025 5405	CARBON	2.2	JA	1/6W	1
R544	401 025 5405	CARBON	2.2	JA	1/6W	1
R545	401 027 2600	CARBON	5.6K	JA	1/6W	1
R546	401 016 4806	CARBON	22K	JA	1/4W	1
R547	401 025 8208	CARBON	22K	JA	1/6W	1
R548	401 024 9305	CARBON	1.2K	JA	1/6W	1
R549	401 027 0309	CARBON	47K	JA	1/6W	1
R550	401 026 1604	CARBON	270K	JA	1/6W	1
R551	401 025 5405	CARBON	2.2	JA	1/6W	1
R552	401 025 5405	CARBON	2.2	JA	1/6W	1
R553	401 027 5502	CARBON	6.8K	JA	1/6W	1
R554	401 012 7009	CARBON	10K	JA	1/4W	1
R555	401 025 7805	CARBON	2.2K	JA	1/6W	1
R556	401 027 5908	CARBON	68K	JA	1/6W	1
R557	401 027 0309	CARBON	47K	JA	1/6W	1
R558	401 026 1307	CARBON	27K	JA	1/6W	1
R559	401 027 5908	CARBON	68K	JA	1/6W	1
R560	401 012 8105	CARBON	100K	JA	1/4W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R561	401 012 8105	CARBON 100K JA 1/4W	1
R562	401 012 7009	CARBON 10K JA 1/4W	1
R563	401 025 0004	CARBON 120K JA 1/6W	1
R564	401 025 5405	CARBON 2.2 JA 1/6W	1
R565	401 025 5405	CARBON 2.2 JA 1/6W	1
R566	401 012 8105	CARBON 100K JA 1/4W	1
R567	401 027 3201	CARBON 560K JA 1/6W	1
R568	401 027 3003	CARBON 56K JA 1/6W	1
R569	401 012 8105	CARBON 100K JA 1/4W	1
R570	401 027 3201	CARBON 560K JA 1/6W	1
R571	401 027 0309	CARBON 47K JA 1/6W	1
R572	401 024 7400	CARBON 10K JA 1/6W	1
R573	401 025 5702	CARBON 2.7 JA 1/6W	1
R574	401 027 5205	CARBON 680 JA 1/6W	1
R575	401 027 0309	CARBON 47K JA 1/6W	1
R576	401 014 5201	CARBON 15K JA 1/4W	1
R577	401 025 2305	CARBON 150K JA 1/6W	1
R578	401 024 7707	CARBON 100K JA 1/6W	1
R579	401 024 7004	CARBON 1K JA 1/6W	1
R580	401 024 7400	CARBON 10K JA 1/6W	1
R581	401 024 7400	CARBON 10K JA 1/6W	1
R582	401 024 7400	CARBON 10K JA 1/6W	1
R583	401 024 7400	CARBON 10K JA 1/6W	1
R584	401 025 8208	CARBON 22K JA 1/6W	1
R585	401 025 7805	CARBON 2.2K JA 1/6W	1
R586	401 024 7004	CARBON 1K JA 1/6W	1
R587	401 020 2003	CARBON 4.7K JA 1/4W	1
R588	401 027 0309	CARBON 47K JA 1/6W	1
R589	401 025 7805	CARBON 2.2K JA 1/6W	1
R590	401 016 3809	CARBON 2.2K JA 1/4W	1
R591	401 026 4308	CARBON 3.3K JA 1/6W	1
R592	401 024 7400	CARBON 10K JA 1/6W	1
R593	401 024 7400	CARBON 10K JA 1/6W	1
R594	401 024 7004	CARBON 1K JA 1/6W	1
R595	401 027 5205	CARBON 680 JA 1/6W	1
R596	402 016 4506	FUSIBLE RES 10 J- 1/2W	1
R597	402 016 4506	FUSIBLE RES 10 J- 1/2W	1
R598	401 020 2904	CARBON 47K JA 1/4W	1
R599	401 025 7409	CARBON 220 JA 1/6W	1
R600	401 024 8001	CARBON 1M JA 1/6W	1
R605	401 027 5502	CARBON 6.8K JA 1/6W	1
R606	401 027 5502	CARBON 6.8K JA 1/6W	1
R607	401 027 5502	CARBON 6.8K JA 1/6W	1
R608	401 027 5502	CARBON 6.8K JA 1/6W	1
R609	401 012 5708	CARBON 1K JA 1/4W	1
R610	401 012 5708	CARBON 1K JA 1/4W	1
R611	401 024 7707	CARBON 100K JA 1/6W	1
R612	401 024 7707	CARBON 100K JA 1/6W	1
R623	401 025 1902	CARBON 15K JA 1/6W	1
R624	401 025 1902	CARBON 15K JA 1/6W	1
R625	401 025 8208	CARBON 22K JA 1/6W	1
R626	401 025 8208	CARBON 22K JA 1/6W	1
R627	401 027 9005	CARBON 82K JA 1/6W	1
R628	401 027 9005	CARBON 82K JA 1/6W	1
R629	401 026 7408	CARBON 39K JA 1/6W	1
R630	401 026 7408	CARBON 39K JA 1/6W	1
R631	401 025 8208	CARBON 22K JA 1/6W	1
R632	401 025 8208	CARBON 22K JA 1/6W	1
R633	401 025 1902	CARBON 15K JA 1/6W	1
R634	401 025 1902	CARBON 15K JA 1/6W	1
R635	401 024 7707	CARBON 100K JA 1/6W	1
R636	401 024 7707	CARBON 100K JA 1/6W	1
R637	401 016 3809	CARBON 2.2K JA 1/4W	1
R638	401 016 3809	CARBON 2.2K JA 1/4W	1
R639	401 026 0607	CARBON 270 JA 1/6W	1
R640	401 026 0607	CARBON 270 JA 1/6W	1
R641	401 016 5803	CARBON 220K JA 1/4W	1
R642	401 025 0608	CARBON 1.3K JA 1/6W	1
R643	401 024 7400	CARBON 10K JA 1/6W	1
R644	401 025 3302	CARBON 16K JA 1/6W	1
R645	401 025 3302	CARBON 16K JA 1/6W	1
R646	401 026 4605	CARBON 33K JA 1/6W	1
R647	401 024 7400	CARBON 10K JA 1/6W	1
R648	401 024 7004	CARBON 1K JA 1/6W	1
R649	401 024 7004	CARBON 1K JA 1/6W	1
R650	401 024 7400	CARBON 10K JA 1/6W	1
R651	401 024 7400	CARBON 10K JA 1/6W	1
R652	401 026 1604	CARBON 270K JA 1/6W	1
R653	401 027 0309	CARBON 47K JA 1/6W	1
R655	401 025 8703	CARBON 220K JA 1/6W	1
R656	401 025 5405	CARBON 2.2 JA 1/6W	1
R657	401 025 5405	CARBON 2.2 JA 1/6W	1
R658	401 027 0309	CARBON 47K JA 1/6W	1
R659	401 025 7805	CARBON 2.2K JA 1/6W	1
R660	401 024 7400	CARBON 10K JA 1/6W	1
R661	401 012 7009	CARBON 10K JA 1/4W	1

ASSY,PCB,TUNER (ANTENNA TERMINAL SUPPLIED)

Ref. No.	Part No.	Description	Q'ty
67	620 209 0382	Assy,PCB,Tuner	1
	620 209 0375	Shield,Plate	1
	620 122 1558	Bracket Antenna	2
	620 122 7420	Screw	2
BPF1	620 026 7397	Band Pass Filter	1
CF1	620 026 7113	Ceramic Filter	1
CF2	620 026 6666	Mechanical Filter	1
CF3	620 014 5879	Ceramic Filter 450kHz	1
CN1	620 021 8436	Plug 6P	1
CW1	620 202 6985	Assy,Connector-S,4P	1
L1	620 029 0852	RF Coil	1
L2	620 028 7043	FM OSC Trans	1
L3	620 028 2666	Bar Antenna	1
L4	620 203 6137	Inductor 10UH K	1
L5	620 203 6137	Inductor 10UH K	1
L6	620 203 6137	Inductor 10UH K	1
L7	620 203 6137	Inductor 10UH K	1
P1	620 006 1971	Potentiometer 30KB	1
P2	620 006 1971	Potentiometer 30KB	1
P3	620 006 1940	Potentiometer 10KB	1
SW1	620 208 4022	Switch,Lever,2K-2P-2T	1
SW2	620 016 4122	Slide Switch (ROD-EXT) 10	1
TC1	620 006 9717	Trimmer Condenser	1
TC2	620 006 9717	Trimmer Condenser	1
TP1	620 021 6807	Pin 1P	1
TP2	620 021 6807	Pin 1P	1
T1	620 027 6429	IFT FM	1
T2	620 027 7297	IFT FM	1
T3	620 027 5804	IFT AM	1
T4	620 028 6282	OSC Trans MW	1
XT1	620 202 6718	Resonator,Xtal 7.2MHz	1
IC1	409 068 3006	IC BA4412	1
IC2	409 016 2105	IC LA1265	1
IC3	409 002 1600	IC BA1355	1
IC4	409 150 1002	IC LC7218	1
Q1	405 026 8304	TR 2SK212-E	1
Q2	405 034 8006	TR DTA143-ES 20	1
Q3	405 034 8006	TR DTA143-ES	1
Q4	405 030 8109	TR 2SC1740SLN-TP-S 20	1
Q5	405 030 8109	TR 2SC1740SLN-TP-S	1
Q6	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q7	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q8	405 003 5708	TR 2SA1318-T 20	1
Q9	405 018 0101	TR 2SC3331-T-AA	1
D1	407 065 0509	VARACTOR DI KV1330A	1

NOTE:
The **D1** consists of 1/2 D1 and 1/2 D1 which have the equivalent characteristics. When replacing, obtain a new pair of D1 (1/2 D1 and 1/2 D1) together.

Ref. No.	Part No.	Description	Q'ty
D2	407 061 6307	DIODE KV1260	1
D3	407 007 9904	DIODE GMA01	1
D4	407 007 9904	DIODE GMA01	1
D5	407 099 5808	ZENER DIODE MTZJ7.5A-T-77 20	1
D6	407 099 5808	ZENER DIODE MTZJ7.5A-T-77	1
C1	403 027 8002	CERAMIC 5.6P K 50V	1
C2	403 069 1207	CERAMIC 1000P K 50V	1
C3	403 009 1809	CERAMIC 10P J 50V	1
C4	403 001 2309	CERAMIC 0.01U N 16V	1
C5	403 069 1207	CERAMIC 1000P K 50V	1
C6	403 001 2309	CERAMIC 0.01U N 16V	1
C7	403 001 2309	CERAMIC 0.01U N 16V	1
C8	403 033 2605	CERAMIC 8.2P K 50V	1
C9	403 012 6006	CERAMIC 15P J 50V	1
C10	403 012 6006	CERAMIC 15P J 50V	1
C11	403 027 8002	CERAMIC 5.6P K 50V	1
C12	403 069 1207	CERAMIC 1000P K 50V	1
C13	403 069 1504	CERAMIC 1000P K 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
C14	403 039 7901	ELECT 100U M 10V	1
C15	403 001 2309	CERAMIC 0.01U N 16V	1
C16	403 001 2309	CERAMIC 0.01U N 16V	1
C17	403 002 3107	CERAMIC 0.01U N 25V	1
C18	403 050 7706	ELECT 3.3U M 50V	1
C19	403 051 2007	ELECT 4.7U M 50V	1
C20	403 050 7706	ELECT 3.3U M 50V	1
C21	403 042 0302	ELECT 10U M 16V	1
C22	403 001 2309	CERAMIC 0.01U N 16V	1
C23	403 001 2309	CERAMIC 0.01U N 16V	1
C24	403 039 7901	ELECT 100U M 10V	1
C25	403 022 7703	CERAMIC 33P J 50V	1
C26	403 042 0302	ELECT 10U M 16V	1
C27	403 002 3107	CERAMIC 0.01U N 25V	1
C28	403 027 8002	CERAMIC 5.6P K 50V	1
C29	403 111 7508	POLYPRO 430P J 100V	1
C30	403 012 6006	CERAMIC 15P J 50V	1
C31	403 001 2309	CERAMIC 0.01U N 16V	1
C32	403 042 0302	ELECT 10U M 16V	1
C33	403 001 2309	CERAMIC 0.01U N 16V	1
C34	403 069 1207	CERAMIC 1000P K 50V	1
C35	403 069 1207	CERAMIC 1000P K 50V	1
C37	403 001 2309	CERAMIC 0.01U N 16V	1
C38	403 039 7901	ELECT 100U M 10V	1
C39	403 001 2309	CERAMIC 0.01U N 16V	1
C40	403 049 1609	ELECT 1U M 50V	1
C41	403 009 1809	CERAMIC 10P J 50V	1
C42	403 017 0207	CERAMIC 20P J 50V	1
C43	403 001 2309	CERAMIC 0.01U N 16V	1
C44	403 049 1609	ELECT 1U M 50V	1
C45	403 082 0706	POLYPRO 470P J 100V	1
C46	403 048 3109	ELECT 0.22U M 50V	1
C47	403 048 7602	ELECT 0.47U M 50V	1
C48	403 049 1609	ELECT 1U M 50V	1
C49	403 001 2309	CERAMIC 0.01U N 16V	1
C50	403 001 2309	CERAMIC 0.01U N 16V	1
C51	403 004 0500	CERAMIC 0.047U K 25V	1
C52	403 004 0500	CERAMIC 0.047U K 25V	1
C53	403 001 6604	CERAMIC 3300P M 16V	1
C54	403 001 6604	CERAMIC 3300P M 16V	1
C55	403 042 3600	ELECT 100U M 16V	1
C56	403 039 7901	ELECT 100U M 10V	1
C57	403 001 2309	CERAMIC 0.01U N 16V	1
C58	403 002 3107	CERAMIC 0.01U N 25V	1
C59	403 001 2309	CERAMIC 0.01U N 16V	1
C60	403 068 9402	CERAMIC 100P K 50V	1
C61	403 068 9402	CERAMIC 100P K 50V	1
R1	401 025 1100	CARBON 15 JA 1/6W	1
R2	401 024 7707	CARBON 100K JA 1/6W	1
R3	401 024 7707	CARBON 100K JA 1/6W	1
R4	401 024 6403	CARBON 10 JA 1/6W	1
R5	401 012 4503	CARBON 100 JA 1/4W	1
R6	401 026 4605	CARBON 33K JA 1/6W	1
R7	401 025 7805	CARBON 2.2K JA 1/6W	1
R8	401 024 8001	CARBON 1M JA 1/6W	1
R9	401 014 2903	CARBON 150 JA 1/4W	1
R10	401 024 6403	CARBON 10 JA 1/6W	1
R11	401 027 2600	CARBON 5.6K JA 1/6W	1
R12	401 027 5908	CARBON 68K JA 1/6W	1
R13	401 012 7009	CARBON 10K JA 1/4W	1
R14	401 014 5201	CARBON 15K JA 1/4W	1
R15	401 012 7009	CARBON 10K JA 1/4W	1
R16	401 024 7400	CARBON 10K JA 1/6W	1
R17	401 026 9907	CARBON 4.7K JA 1/6W	1
R18	401 027 5908	CARBON 68K JA 1/6W	1
R19	401 024 7004	CARBON 1K JA 1/6W	1
R20	401 027 8107	CARBON 82 JA 1/6W	1
R21	401 024 7707	CARBON 100K JA 1/6W	1
R22	401 027 0309	CARBON 47K JA 1/6W	1
R23	401 025 7102	CARBON 22 JA 1/6W	1
R24	401 026 1000	CARBON 2.7K JA 1/6W	1
R25	401 026 4308	CARBON 3.3K JA 1/6W	1
R26	401 024 7400	CARBON 10K JA 1/6W	1
R27	401 021 3009	CARBON 5.6K JA 1/4W	1
R28	401 024 7707	CARBON 100K JA 1/6W	1
R29	401 024 7707	CARBON 100K JA 1/6W	1
R30	401 025 8208	CARBON 22K JA 1/6W	1
R31	401 024 7004	CARBON 1K JA 1/6W	1
R32	401 024 7400	CARBON 10K JA 1/6W	1

Ref. No.	Part No.	Description	Q'ty
R33	401 026 7002	CARBON 3.9K JA 1/6W	1
R34	401 026 7002	CARBON 3.9K JA 1/6W	1
R35	401 025 8208	CARBON 22K JA 1/6W	1
R36	401 025 8208	CARBON 22K JA 1/6W	1
R37	401 027 2600	CARBON 5.6K JA 1/6W	1
R38	401 027 2600	CARBON 5.6K JA 1/6W	1
R39	401 026 4605	CARBON 33K JA 1/6W	1
R40	401 026 4605	CARBON 33K JA 1/6W	1
R41	401 026 4308	CARBON 3.3K JA 1/6W	1
R42	401 026 4308	CARBON 3.3K JA 1/6W	1
R43	401 024 7004	CARBON 1K JA 1/6W	1
R44	401 099 6209	OXIDE-MT 15 JB 1/2W	1
R45	401 016 3809	CARBON 2.2K JA 1/4W	1
R46	401 024 7400	CARBON 10K JA 1/6W	1
R47	401 026 9600	CARBON 470 JA 1/6W	1
R48	401 026 8108	CARBON 4.7 JA 1/6W	1
R49	401 026 8108	CARBON 4.7 JA 1/6W	1
R50	401 027 2303	CARBON 560 JA 1/6W	1
R51	401 024 7400	CARBON 10K JA 1/6W	1
R52	401 027 6608	CARBON 75 JA 1/6W	1

ASSY,PCB,TUNER (WITHOUT ANTENNA TERMINAL)

Ref. No.	Part No.	Description	Q'ty
67	620 208 3971	Assy,PCB,Tuner ✓	1
	620 209 0375	Shield,Plate	1
BPF1	620 026 7397	Band Pass Filter	1
CF1	620 026 7113	Ceramic Filter	1
CF2	620 026 6666	Mechanical Filter	1
CF3	620 014 5879	Ceramic Filter 450kHz	1
CN1	620 021 8436	Plug 6P	1
CW1	620 202 6985	Assy,Connector-S,4P	1
L1	620 029 0852	RF Coil	1
L2	620 028 7043	FM OSC Trans	1
L3	620 028 2666	Bar Antenna	1
L4	620 203 6137	Inductor 10UH K	1
L5	620 203 6137	Inductor 10UH K	1
L6	620 203 6137	Inductor 10UH K	1
L7	620 203 6137	Inductor 10UH K	1
P1	620 006 1971	Potentiometer 30KB	1
P2	620 006 1971	Potentiometer 30KB	1
P3	620 006 1940	Potentiometer 10KB	1
SW1	620 208 4022	Switch,Lever,2K-2P-2T	1
TC1	620 006 9717	Trimmer Condenser	1
TC2	620 006 9717	Trimmer Condenser	1
TP1	620 021 6807	Pin 1P	1
TP2	620 021 6807	Pin 1P	
TP3	620 021 6807	Pin 1P	1
T1	620 027 6429	IFT FM	1
T2	620 027 7297	IFT FM	1
T3	620 027 5804	IFT AM	1
T4	620 028 6282	OSC Trans MW	1
XT1	620 202 6718	Resonator,Xtal 7.2MHz	1
IC1	409 068 3006	IC BA4412	1
IC2	409 016 2105	IC LA1265	1
IC3	409 002 1600	IC BA1355	1
IC4	409 150 1002	IC LC7218	1
Q1	405 026 8304	TR 2SK212-E	1
Q2	405 034 8006	TR DTA143-ES	1
Q3	405 034 8006	TR DTA143-ES	1
Q4	405 030 8109	TR 2SC1740SLN-TP-S	1
Q5	405 030 8109	TR 2SC1740SLN-TP-S	1
Q6	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q7	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q8	405 003 5708	TR 2SA1318-T	1
Q9	405 018 0101	TR 2SC3331-T-AA	1
D1	407 065 0509	VARACTOR DI KV1330A	1

NOTE:
The **D1** consists of 1/2 D1 and 1/2 D1 which have the equivalent characteristics. When replacing, obtain a new pair of D1 (1/2 D1 and 1/2 D1) together.

Ref. No.	Part No.	Description	Q'ty
D2	407 061 6307	DIODE KV1260	1
D3	407 007 9904	DIODE GMA01	1
D4	407 007 9904	DIODE GMA01	1
D5	407 099 5808	ZENER DIODE MTZJ7.5A-T-77	1
D6	407 099 5808	ZENER DIODE MTZJ7.5A-T-77	1
C1	403 027 8002	CERAMIC 5.6P K 50V	1
C2	403 069 1207	CERAMIC 1000P K 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C3	403 009 1809	CERAMIC	10P	J	50V	1
C4	403 001 2309	CERAMIC	0.01U	N	16V	1
C5	403 069 1207	CERAMIC	1000P	K	50V	1
C6	403 001 2309	CERAMIC	0.01U	N	16V	1
C7	403 001 2309	CERAMIC	0.01U	N	16V	1
C8	403 033 2605	CERAMIC	8.2P	K	50V	1
C9	403 012 6006	CERAMIC	15P	J	50V	1
C10	403 012 6006	CERAMIC	15P	J	50V	1
C11	403 027 8002	CERAMIC	5.6P	K	50V	1
C12	403 069 1207	CERAMIC	1000P	K	50V	1
C13	403 069 1504	CERAMIC	1000P	K	50V	1
C14	403 039 7901	ELECT	100U	M	10V	1
C15	403 001 2309	CERAMIC	0.01U	N	16V	1
C16	403 001 2309	CERAMIC	0.01U	N	16V	1
C17	403 002 3107	CERAMIC	0.01U	N	25V	1
C18	403 050 7706	ELECT	3.3U	M	50V	1
C19	403 051 2007	ELECT	4.7U	M	50V	1
C20	403 050 7706	ELECT	3.3U	M	50V	1
C21	403 042 0302	ELECT	10U	M	16V	1
C22	403 001 2309	CERAMIC	0.01U	N	16V	1
C23	403 001 2309	CERAMIC	0.01U	N	16V	1
C24	403 039 7901	ELECT	100U	M	10V	1
C25	403 022 7703	CERAMIC	33P	J	50V	1
C26	403 042 0302	ELECT	10U	M	16V	1
C27	403 002 3107	CERAMIC	0.01U	N	25V	1
C28	403 027 8002	CERAMIC	5.6P	K	50V	1
C29	403 111 7508	POLYPRO	430P	J	100V	1
C30	403 012 6006	CERAMIC	15P	J	50V	1
C31	403 001 2309	CERAMIC	0.01U	N	16V	1
C32	403 042 0302	ELECT	10U	M	16V	1
C33	403 001 2309	CERAMIC	0.01U	N	16V	1
C34	403 069 1207	CERAMIC	1000P	K	50V	1
C35	403 069 1207	CERAMIC	1000P	K	50V	1
C37	403 001 2309	CERAMIC	0.01U	N	16V	1
C38	403 039 7901	ELECT	100U	M	10V	1
C39	403 001 2309	CERAMIC	0.01U	N	16V	1
C40	403 049 1609	ELECT	1U	M	50V	1
C41	403 009 1809	CERAMIC	10P	J	50V	1
C42	403 017 0207	CERAMIC	20P	J	50V	1
C43	403 001 2309	CERAMIC	0.01U	N	16V	1
C44	403 049 1609	ELECT	1U	M	50V	1
C45	403 082 0706	POLYPRO	470P	J	100V	1
C46	403 048 3109	ELECT	0.22U	M	50V	1
C47	403 048 7602	ELECT	0.47U	M	50V	1
C48	403 049 1609	ELECT	1U	M	50V	1
C49	403 001 2309	CERAMIC	0.01U	N	16V	1
C50	403 001 2309	CERAMIC	0.01U	N	16V	1
C51	403 004 0500	CERAMIC	0.047U	K	25V	1
C52	403 004 0500	CERAMIC	0.047U	K	25V	1
C53	403 001 6604	CERAMIC	3300P	M	16V	1
C54	403 001 6604	CERAMIC	3300P	M	16V	1
C55	403 042 3600	ELECT	100U	M	16V	1
C56	403 039 7901	ELECT	100U	M	10V	1
C57	403 001 2309	CERAMIC	0.01U	N	16V	1
C58	403 002 3107	CERAMIC	0.01U	N	25V	1
C59	403 001 2309	CERAMIC	0.01U	N	16V	1
C60	403 068 9402	CERAMIC	100P	K	50V	1
C61	403 068 9402	CERAMIC	100P	K	50V	1
R1	401 025 1100	CARBON	15	JA	1/6W	1
R2	401 024 7707	CARBON	100K	JA	1/6W	1
R3	401 024 7707	CARBON	100K	JA	1/6W	1
R4	401 024 6403	CARBON	10	JA	1/6W	1
R5	401 012 4503	CARBON	100	JA	1/4W	1
R6	401 026 4605	CARBON	33K	JA	1/6W	1
R7	401 025 7805	CARBON	2.2K	JA	1/6W	1
R8	401 024 8001	CARBON	1M	JA	1/6W	1
R9	401 014 2903	CARBON	150	JA	1/4W	1
R10	401 024 6403	CARBON	10	JA	1/6W	1
R11	401 027 2600	CARBON	5.6K	JA	1/6W	1
R12	401 027 5908	CARBON	68K	JA	1/6W	1
R13	401 012 7009	CARBON	10K	JA	1/4W	1
R14	401 014 5201	CARBON	15K	JA	1/4W	1
R15	401 012 7009	CARBON	10K	JA	1/4W	1
R16	401 024 7400	CARBON	10K	JA	1/6W	1
R17	401 026 9907	CARBON	4.7K	JA	1/6W	1
R18	401 027 5908	CARBON	68K	JA	1/6W	1
R19	401 024 7004	CARBON	1K	JA	1/6W	1
R20	401 027 8107	CARBON	82	JA	1/6W	1
R21	401 024 7707	CARBON	100K	JA	1/6W	1

Ref. No.	Part No.	Description				Q'ty
R22	401 027 0309	CARBON	47K	JA	1/6W	1
R23	401 025 7102	CARBON	22	JA	1/6W	1
R24	401 026 1000	CARBON	2.7K	JA	1/6W	1
R25	401 026 4308	CARBON	3.3K	JA	1/6W	1
R26	401 024 7400	CARBON	10K	JA	1/6W	1
R27	401 021 3009	CARBON	5.6K	JA	1/4W	1
R28	401 024 7707	CARBON	100K	JA	1/6W	1
R29	401 024 7707	CARBON	100K	JA	1/6W	1
R30	401 025 8208	CARBON	22K	JA	1/6W	1
R31	401 024 7004	CARBON	1K	JA	1/6W	1
R32	401 024 7400	CARBON	10K	JA	1/6W	1
R33	401 026 7002	CARBON	3.9K	JA	1/6W	1
R34	401 026 7002	CARBON	3.9K	JA	1/6W	1
R35	401 025 8208	CARBON	22K	JA	1/6W	1
R36	401 025 8208	CARBON	22K	JA	1/6W	1
R37	401 027 2600	CARBON	5.6K	JA	1/6W	1
R38	401 027 2600	CARBON	5.6K	JA	1/6W	1
R39	401 026 4605	CARBON	33K	JA	1/6W	1
R40	401 026 4605	CARBON	33K	JA	1/6W	1
R41	401 026 4308	CARBON	3.3K	JA	1/6W	1
R42	401 026 4308	CARBON	3.3K	JA	1/6W	1
R43	401 024 7004	CARBON	1K	JA	1/6W	1
R44	401 099 6209	OXIDE-MT	15	JB	1/2W	1
R45	401 016 3809	CARBON	2.2K	JA	1/4W	1
R46	401 024 7400	CARBON	10K	JA	1/6W	1
R47	401 026 9600	CARBON	470	JA	1/6W	1
R48	401 026 8108	CARBON	4.7	JA	1/6W	1
R49	401 026 8108	CARBON	4.7	JA	1/6W	1
R50	401 027 2303	CARBON	560	JA	1/6W	1

ASSY,PCB,LED

Ref. No.	Part No.	Description		Q'ty
68	620 201 8683	Assy,PCB.LED ✓		1
D21	407 027 1605	LED SLP-144B	20 ✓	1

ASSY,PCB,BATTERY ANODE

Ref. No.	Part No.	Description	Q'ty
69	620 201 8690	Assy,PCB,Battery Anode ✓	1
	~~620 201 8751~~	PCB,Battery Anode	1

ASSY,PCB,BATTERY CATHODE

Ref. No.	Part No.	Description	Q'ty
70	620 201 8706	Assy,PCB.Battery Cathode ✓	1
	~~620 202 4813~~	Spring,Battery	1

ASSY,PCB,CONTROL

Ref. No.	Part No.	Description			Q'ty
71	620 208 3995	Assy,PCB.Control ✓			1
	620 202 6794	Shield.Plate			1
	620 202 6800	Shield.Plate			1
	620 203 8582	Cushion			1
	620 123 7658	Sheet			3
CF901	620 026 9551	CST6.00MG			1
CN901	620 022 0460	Plug 5P			1
CN902	620 022 0460	Plug 5P			1
CN903	620 021 9419	Plug 3P			1
CW901	620 202 6916	Assy,Connector-S,4P			1
CW902	620 202 6862	Assy,Connector-S,2P			1
CW903	620 202 6954	Assy,Connector-S,8P			1
CW904	620 202 6879	Assy,Connector-S,4P			1
CW905	620 203 4621	Assy,Connector-S,8P			1
CW906	620 202 6947	Assy,Connector-S,8P			1
CW907	620 202 6886	Assy,Connector-S,4P			1
CW908	620 202 6930	Assy,Connector-S,6P			1
CW909	620 202 6893	Assy,Connector-S,4P			1
CW910	620 202 6909	Assy,Connector-S,4P			1
FL901	620 202 4608	Fluorescent Tube			1
L901	620 197 9589	Inductor	10UH K		1
L902	620 197 9589	Inductor	10UH K		1
L903	620 197 8926	Inductor	1MH K		1
L904	620 197 8926	Inductor	1MH K		1
L905	620 197 8926	Inductor	1MH K		1
L908	620 197 9589	Inductor	10UH K		1
L909	620 197 9589	Inductor	10UH K		1
L910	620 197 9589	Inductor	10UH K		1
L911	620 197 9589	Inductor	10UH K		1
L912	620 197 9589	Inductor	10UH K		1
L913	620 197 9589	Inductor	10UH K		1
L914	620 197 9589	Inductor	10UH K		1
L915	620 197 9589	Inductor	10UH K		1
SW922	620 202 6725	Switch,Tact	20	✓	1
SW923	~~620 202 6725~~	Switch,Tact			1
SW924	~~620 202 6725~~	Switch,Tact			1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
SW925	620 202 6725	Switch,Tact	1
SW926	620 202 6725	Switch,Tact	1
SW927	620 202 6725	Switch,Tact	1
SW928	620 202 6725	Switch,Tact	1
SW929	620 202 6725	Switch,Tact	1
SW930	620 202 6725	Switch,Tact	1
SW931	620 202 6725	Switch,Tact	1
SW932	620 202 6725	Switch,Tact	1
SW933	620 202 4578	Switch,Slide,1K-1P-2T 20 ✓	1
XT901	620 007 3325	Crystal 32.768kHz	1
IC901	410 105 9806	IC TMP47C1660N-V524 30 ✓	1
IC902	409 039 9204	IC NJM78L05A (T3) 10 ✓	1
or	409 039 9204	IC NJM78L05A 10 ✓	1
IC903	409 202 5200	IC PST529H-2 10 ✓	1
or	409 202 5200	IC ~~PST529H~~	1
IC904	409 202 5408	IC TB2104F 10 ✓	1
IC905	409 202 5408	IC TB2104F	1
IC906	409 202 5408	IC TB2104F	1
IC907	409 202 5408	IC TB2104F	1
IC908	409 003 0701	IC BA6146 —	1
IC909	409 003 0701	IC BA6146	1
IC910	409 003 0701	IC BA6146	1
IC911	409 155 8907	IC TC74HC126F 10 ✓	1
Q901	405 003 5708	TR 2SA1318-T 20 ✓	1
Q902	405 035 0702	TR DTC144-EF	1
D901	407 007 9904	DIODE GMA01-BT ✓	1
D902	407 007 9904	DIODE GMA01-BT	1
D903	407 007 9904	DIODE GMA01-BT	1
D904	407 007 9904	DIODE GMA01-BT	1
D905	407 007 9904	DIODE GMA01-BT	1
D906	407 007 9904	DIODE GMA01-BT	1
D907	407 007 9904	DIODE GMA01-BT	1
D908	407 007 9904	DIODE GMA01-BT	1
D909	407 007 9904	DIODE GMA01-BT	1
D910	407 007 9904	DIODE GMA01-BT	1
D911	407 007 9904	DIODE GMA01-BT	1
D912	407 007 9904	DIODE GMA01-BT	1
D913	407 007 9904	DIODE GMA01-BT	1
D914	407 007 9904	DIODE GMA01-BT	1
D916	407 077 3109	DIODE SB0015-03A 20 ✓	1
D917	407 063 9504	ZENER DIODE MTZJ8.2B-T-77 20 ✓	1
D918	407 063 9504	ZENER DIODE MTZJ8.2B-T-77	1
D919	407 007 9904	DIODE GMA01-BT	1
C901	403 121 9509	CERAMIC 0.1U Z 50V	1
C902	404 033 7805	CERAMIC 0.1U Z 50V	1
C904	403 017 0603	CERAMIC 20P J 50V	1
C905	403 040 3008	ELECT 22U M 10V	1
C906	403 050 7805	ELECT 3.3U M 50V	1
C907	403 042 0302	ELECT 10U M 16V	1
C908	403 001 2309	CERAMIC 0.01U N 16V	1
C909	403 039 3200	ELECT 47U M 6.3V	1
C910	403 042 3600	ELECT 100U M 16V	1
C911	403 040 3008	ELECT 22U M 10V	1
C912	403 040 3008	ELECT 22U M 10V	1
C913	403 040 3008	ELECT 22U M 10V	1
C914	403 050 1605	ELECT 2.2U M 50V	1
C915	403 050 1605	ELECT 2.2U M 50V	1
C916	403 050 1605	ELECT 2.2U M 50V	1
C917	403 042 9008	ELECT 22U M 16V	1
C918	403 051 2304	ELECT 4.7U M 50V	1
C919	403 121 9509	CERAMIC 0.1U Z 50V	1
C920	403 039 6409	ELECT 10U M 10V	1
C921	403 068 9402	CERAMIC 100P K 50V	1
C922	403 017 0207	CERAMIC 20P J 50V	1
C923	403 009 1809	CERAMIC 10P J 50V	1
R901	401 024 7400	CARBON 10K JA 1/6W	1
R902	401 027 5502	CARBON 6.8K JA 1/6W	1
R903	401 027 5502	CARBON 6.8K JA 1/6W	1
R904	401 026 9907	CARBON 4.7K JA 1/6W	1
R905	401 026 9907	CARBON 4.7K JA 1/6W	1
R906	401 025 7805	CARBON 2.2K JA 1/6W	1
R907	401 024 7400	CARBON 10K JA 1/6W	1
R908	401 024 7004	CARBON 1K JA 1/6W	1
R909	401 024 7400	CARBON 10K JA 1/6W	1
R910	401 024 7707	CARBON 100K JA 1/6W	1
R911	401 024 7400	CARBON 10K JA 1/6W	1
R912	401 024 7004	CARBON 1K JA 1/6W	1
R913	401 024 7400	CARBON 10K JA 1/6W	1
R914	401 024 7004	CARBON 1K JA 1/6W	1

Ref. No.	Part No.	Description	Q'ty
R915	401 024 7004	CARBON 1K JA 1/6W	1
R916	401 024 7400	CARBON 10K JA 1/6W	1
R917	401 024 7400	CARBON 10K JA 1/6W	1
R918	401 024 7400	CARBON 10K JA 1/6W	1
R919	401 024 7400	CARBON 10K JA 1/6W	1
R920	401 024 7400	CARBON 10K JA 1/6W	1
R921	401 024 7400	CARBON 10K JA 1/6W	1
R922	401 024 7004	CARBON 1K JA 1/6W	1
R923	401 025 8703	CARBON 220K JA 1/6W	1
R924	401 012 5708	CARBON 1K JA 1/4W	1
R925	401 012 5708	CARBON 1K JA 1/4W	1
R926	401 012 5708	CARBON 1K JA 1/4W	1
R927	401 012 5708	CARBON 1K JA 1/4W	1
R928	401 024 7004	CARBON 1K JA 1/6W	1
R929	401 024 7004	CARBON 1K JA 1/6W	1
R930	401 024 7004	CARBON 1K JA 1/6W	1
R931	401 024 7004	CARBON 1K JA 1/6W	1
R932	401 024 7004	CARBON 1K JA 1/6W	1
R933	401 024 7004	CARBON 1K JA 1/6W	1
R934	401 024 7004	CARBON 1K JA 1/6W	1
R935	401 024 7004	CARBON 1K JA 1/6W	1
R936	401 024 7004	CARBON 1K JA 1/6W	1
R937	401 012 5708	CARBON 1K JA 1/4W	1
R938	401 024 7004	CARBON 1K JA 1/6W	1
R939	401 024 7004	CARBON 1K JA 1/6W	1
R940	401 024 7004	CARBON 1K JA 1/6W	1
R941	401 024 7004	CARBON 1K JA 1/6W	1
R942	401 024 7004	CARBON 1K JA 1/6W	1
R943	401 024 7004	CARBON 1K JA 1/6W	1
R944	401 024 7004	CARBON 1K JA 1/6W	1
R945	401 024 7004	CARBON 1K JA 1/6W	1
R946	401 024 7004	CARBON 1K JA 1/6W	1
R947	401 024 7004	CARBON 1K JA 1/6W	1
R948	401 024 7004	CARBON 1K JA 1/6W	1
R949	401 024 7004	CARBON 1K JA 1/6W	1
R950	401 024 7004	CARBON 1K JA 1/6W	1
R951	401 024 7004	CARBON 1K JA 1/6W	1
R952	401 012 5708	CARBON 1K JA 1/4W	1
R953	401 024 7004	CARBON 1K JA 1/6W	1
R954	401 024 7004	CARBON 1K JA 1/6W	1
R955	401 024 7004	CARBON 1K JA 1/6W	1
R956	401 024 7707	CARBON 100K JA 1/6W	1
R957	401 024 7004	CARBON 1K JA 1/6W	1
R958	401 024 7004	CARBON 1K JA 1/6W	1

ASSY.PCB.SWITCH

Ref. No.	Part No.	Description	Q'ty
72	620 201 8720	Assy.PCB.Switch ✓	1
	620 202 0259	Spacer.PCB	3
	412 035 5903	SPECIAL SCREW	6
CW951	620 202 6923	Assy.Connector-S.5P	1
CW952	620 202 6923	Assy.Connector-S.5P	1
CW953	620 202 6978	Assy.Connector-S.3P	1
RJ901	620 202 4615	Converter.Remote Control	1
SW901	620 202 6725	Switch,Tact	1
SW902	620 202 6725	Switch,Tact	1
SW903	620 202 6725	Switch,Tact	1
SW904	620 202 6725	Switch,Tact	1
SW905	620 202 6725	Switch,Tact	1
SW906	620 202 6725	Switch,Tact	1
SW907	620 202 6725	Switch,Tact	1
SW908	620 202 6725	Switch,Tact	1
SW909	620 202 6725	Switch,Tact	1
SW910	620 202 6725	Switch,Tact	1
SW911	620 202 6725	Switch,Tact	1
SW912	620 202 6725	Switch,Tact	1
SW913	620 202 6725	Switch,Tact	1
SW914	620 202 6725	Switch,Tact	1
SW915	620 202 6725	Switch,Tact	1
SW916	620 202 6725	Switch,Tact	1
SW917	620 202 6725	Switch,Tact	1
SW918	620 202 6725	Switch,Tact	1
SW919	620 202 6725	Switch,Tact	1
SW920	620 202 6725	Switch,Tact	1
SW921	620 202 6725	Switch,Tact	1

IC & TRANSISTOR DC VOLTAGES

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC301	LA3246	0V	0V	0.6V	2.9V	2.9V	0V	0V	2.9V	0V	0V	7.3V	7.3V	6.6V	0V	4.3V	2.9V	2.9V	0.6V	0V	0V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC303	BU4052B	0V	0V	0V	0V	0V	0V	0V	0V	4.8V	4.7V	0V	0V	0V	0V	0V	5.5V
IC304	BU4052B	1.2V	0V	0V	1.2V	1.2V	0V	0V	0V	4.9V	0V	2.6V	2.6V	2.6V	2.6V	2.6V	5.4V
IC305	CXA1101P	4.9V	9.6V	4.9V	4.9V	0V	5.0V	0.4V	5.0V	4.9V	0.3V	4.9V	4.7V	1.2V	4.9V	0V	4.9V
IC306	CXA1198AP	1.2V	1.2V	1.2V	0V	0V	4.9V	5.0V	5.2V	5.4V	5.0V	4.9V	9.8V	1.2V	1.2V	1.2V	1.2V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8
IC307,308	M5218L	5.3V	5.3V	5.3V	0V	5.3V	5.3V	5.3V	10.6V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6
IC310	L780S12	20.4V	0V	0V	0.2V	11.9V	–

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC309	LA4620	20.7V	10.1V	0V	1.2V	1.2V	0V	9.4V	9.4V	0V	1.9V	20.6V	19.7V	2.0V	0.1V	0V	0.1V	0.1V	19.7V	19.7V	11.1V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	11.1V	19.7V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC311	LC7995	0V	0V	0V	5.5V	0V	0V	0V	5.5V	0V	0V	0V	5.4V	5.5V	5.5V	5.5V	5.5V	5.5V	5.5V	5.5V	5.5V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		4.7V	0V	0V	0V	5.5V	0V	0V	5.5V	5.5V	5.5V	5.5V	5.5V	4.9V	2.6V	2.6V	0.4V	0V	2.6V	0V	5.5V
		41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
		5.5V	0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC441	BA3824LS	8.0V	8.0V	8.5V	8.5V	8.0V	8.0V	8.6V	8.6V	8.0V	8.0V	8.6V	8.6V	8.0V	8.0V	8.6V	8.6V	5.7V	3.3V	3.3V	5.7V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		3.9V	3.9V	9.0V	0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IC442	LC4011B	7.5V	7.5V	0V	0V	7.4V	7.4V	0V	7.4V	7.4V	0V	0V	7.5V	7.5V	7.5V	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC501	LC7860K	0V	2.3V	2.3V	2.4V	0V	2.0V	2.3V	2.4V	0V	4.9V	0V	0V	0V	0V	4.2V	4.2V	[illegible]	2.2V	4.9V	4.9V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	0V	0V	0V	0V	4.9V	4.9V	0V	1.0V	2.4V	4.9V	2.0V	1.1V	0V	2.1V	0V	2.4V	4.9V	2.1V	2.3V
		41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
		0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0.1V	0V	0V	0V	0V	0V	0.1V
		61	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
		0V	0V	0V	0V	0.3V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0.1V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC502	LA9200NM	0V	0V	0.2V	0V	0V	0V	0V	0V	1.1V	0V	0V	0V	0V	2.7V	4.3V	4.2V	4.2V	4.2V	−4.9V	2.2V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		4.9V	2.4V	1.6V	1.6V	0V	2.4V	0V	2.5V	2.4V	0V	0V	0.6V	0.6V	−0.2V	−0.2V	−0.2V	0V	10.2V	4.8V	4.9V
		41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
		0V	0V	−4.9V	0V	0V	0V	0V	0V	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC503	LC3517BS	2.3V	2.3V	2.3V	2.2V	1.5V	1.5V	1.4V	1.4V	1.3V	1.3V	1.3V	0V	3.5V	3.5V	3.5V	1.6V	3.5V	0V	2.3V	3.4V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		4.4V	2.3V	2.3V	4.9V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IC504	LC97000A	1.6V	3.1V	4.9V	4.9V	2.2V	0V	2.4V	0V	0V	0V	0V	0V	2.4V	0V	4.9V	0V	4.9V	0V	4.9V	0V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	0V	2.1V	2.1V	2.2V	0V	0V	1.6V	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10
IC505,506	NJM2068S	4.9V	1.6V	1.6V	1.6V	−4.9V	1.6V	1.6V	1.6V	4.9V	–
IC507	NJM2068S	4.9V	0V	0V	0V	−4.9V	0V	0V	0V	4.9V	–

IC & TRANSISTOR DC VOLTAGES (Continued)

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC506	BU4052B	0V	0V	0V	0V	0V	0V	−4.9V	0V	0V	0V	0V	0V	0V	0V	0V	4.9V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8
IC509	NJM2072D	0.5V	0.5V	0.5V	0V	0.6V	4.9V	0V	4.9V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC510	MC14013B	0V	4.9V	0V	4.9V	4.9V	0V	0V	0V	4.9V	4.9V	4.9V	4.9V	0V	4.9V

IC PIN NUMBERS DC VOLTAGES

Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10
IC511	NJM2068S	10.7V	−9.2V	−4.9V	−5.0V	−11.0V	0V	0V	−5.0V	10.7V	−
IC512	L780S05	11.0V	0V	0V	8.0V	0V	−	−	−	−	−
IC513	NJM79L05A	0V	−10.8V	−4.9V	−	−	−	−	−	−	−
IC514	LA6510	0V	0V	0V	0V	−11.1V	0V	0V	0.1V	0V	10.6V
IC515	LA6510	0V	0V	0V	0V	−11.2V	0V	0V	0V	0V	10.6V

TRANSISTOR DC VOLTAGES (* = REC MODE)

Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q304	2SC3331	11.7V	11.8V	10.9V	Q331	JA101	0V	−3.8V	0V
Q313*	2SA1318	9.0V	9.7V	9.8V	Q431	2SD612	12.6V	20.2V	12.0V
Q314*	2SA1318	9.6V	5.8V	9.7V					

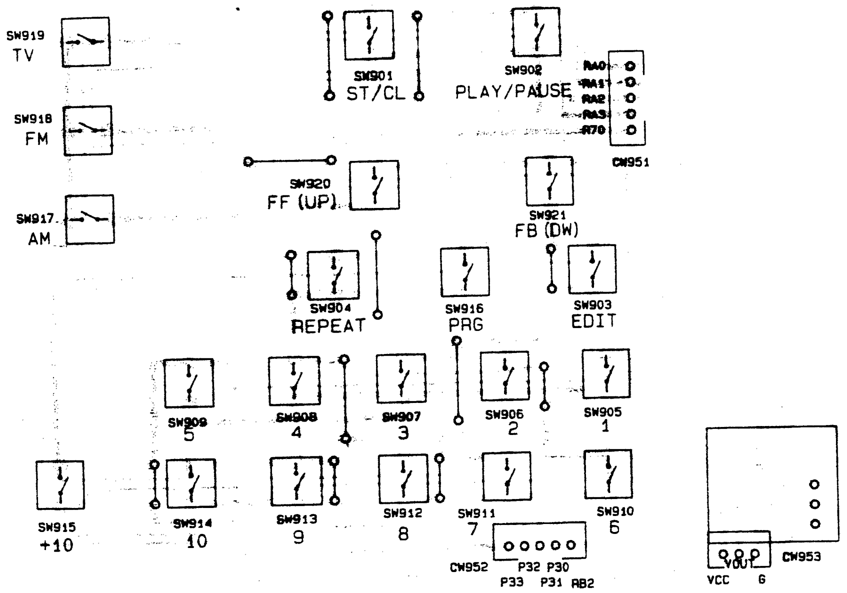
TRANSISTOR DC VOLTAGES

Ref. No.	DEVICE	B	C	E
Q441	2SC3331	8.0V	10.9V	7.6V
Q442	2SC3331	1.3V	4.0V	0.6V

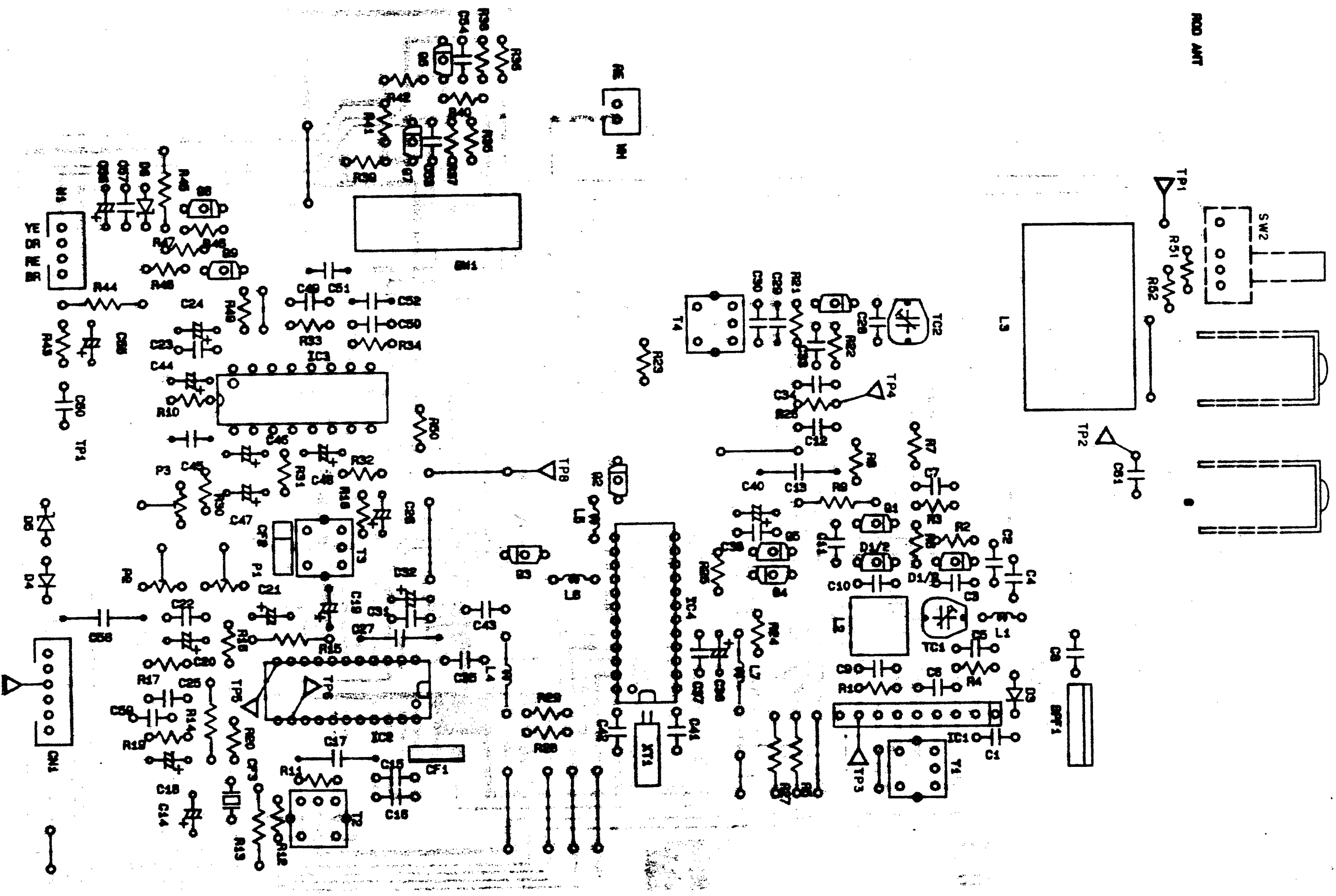
TRANSISTOR DC VOLTAGES

Ref. No.	DEVICE	B	C	E
Q504	2SB808	−5.6V	−4.9V	−4.9V
Q509	2SA1317	3.7V	4.3V	4.3V

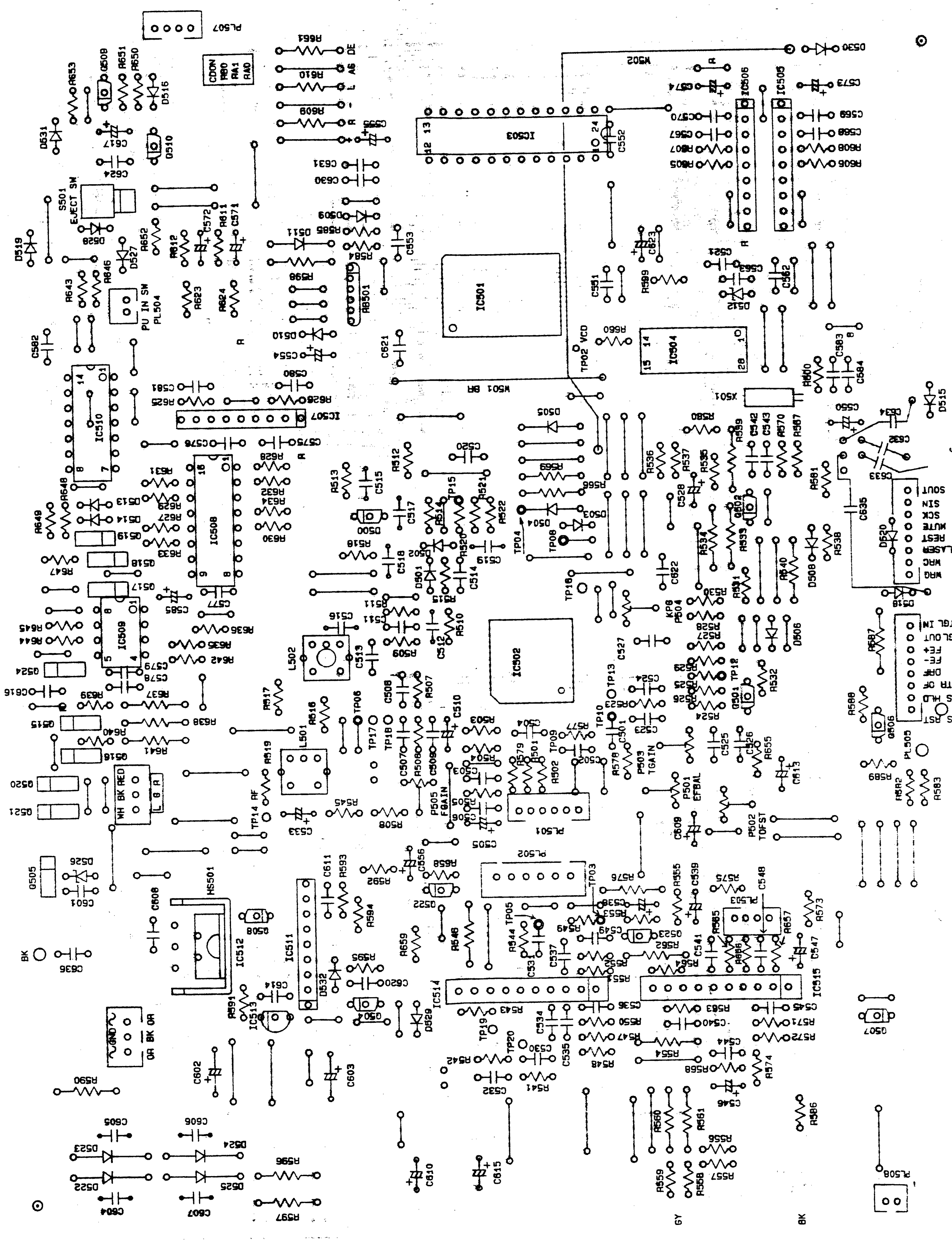
SWITCH P.C.BOARD
(BOTTOM VIEW)


SW919
TV
SW918
FM
SW917
AM
SW901
ST/CL
SW902
PLAY/PAUSE
RA0
RA1
RA2
RA3
R70
CW951
SW920
FF (UP)
SW921
FB (DW)
SW904
REPEAT
SW916
PRG
SW903
EDIT
SW909
5
SW908
4
SW907
3
SW906
2
SW905
1
SW915
+10
SW914
10
SW913
9
SW912
8
SW911
7
SW910
6
CW952
P32
P30
P33
P31
RB2
VOUT
CW953
VCC
6

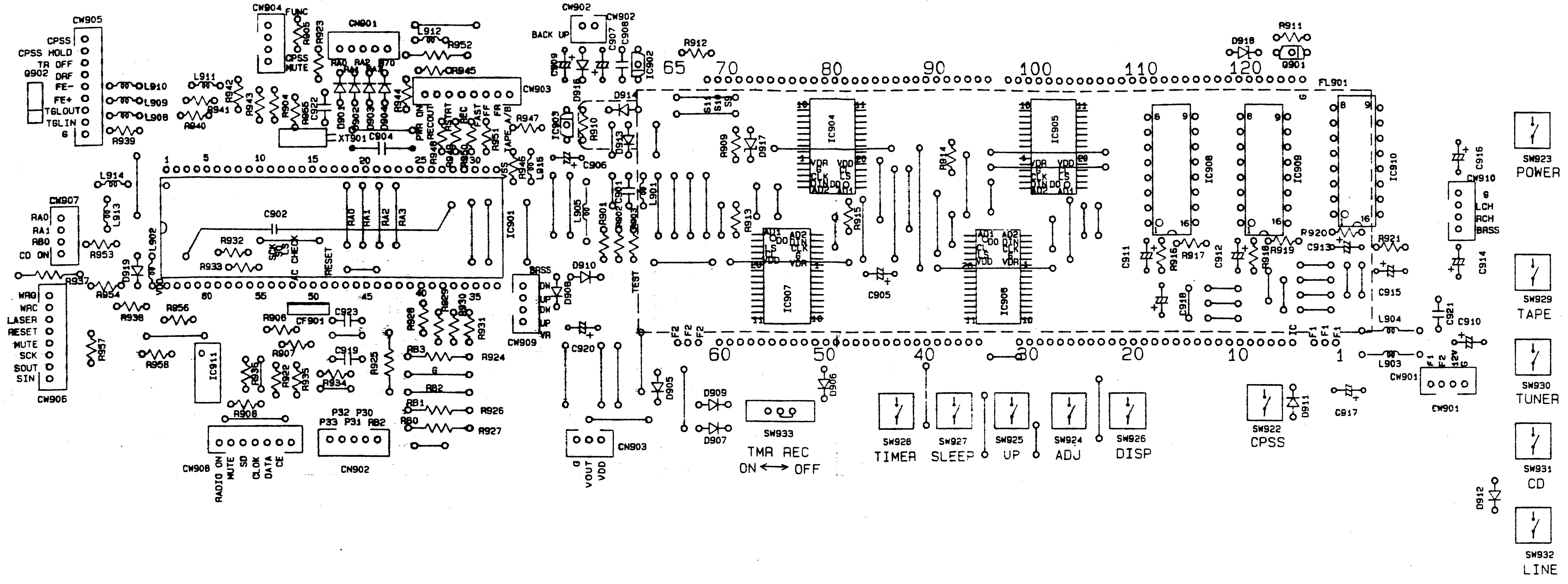
TUNER P.C.BOARD
(BOTTOM VIEW)



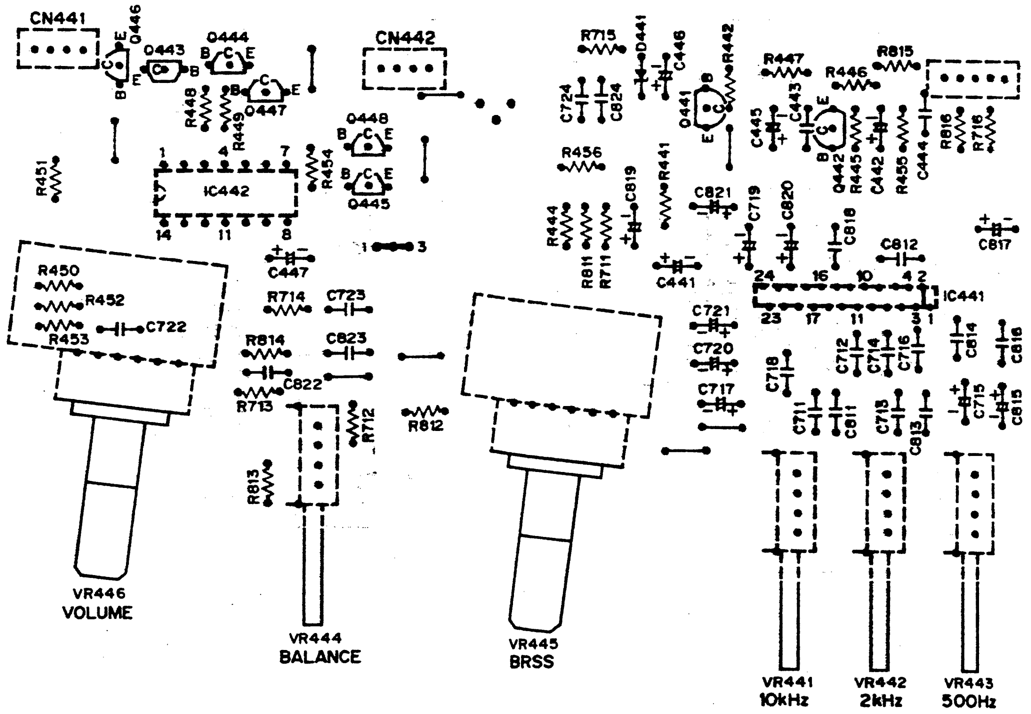
CD P.C.BOARD
(BOTTOM VIEW)



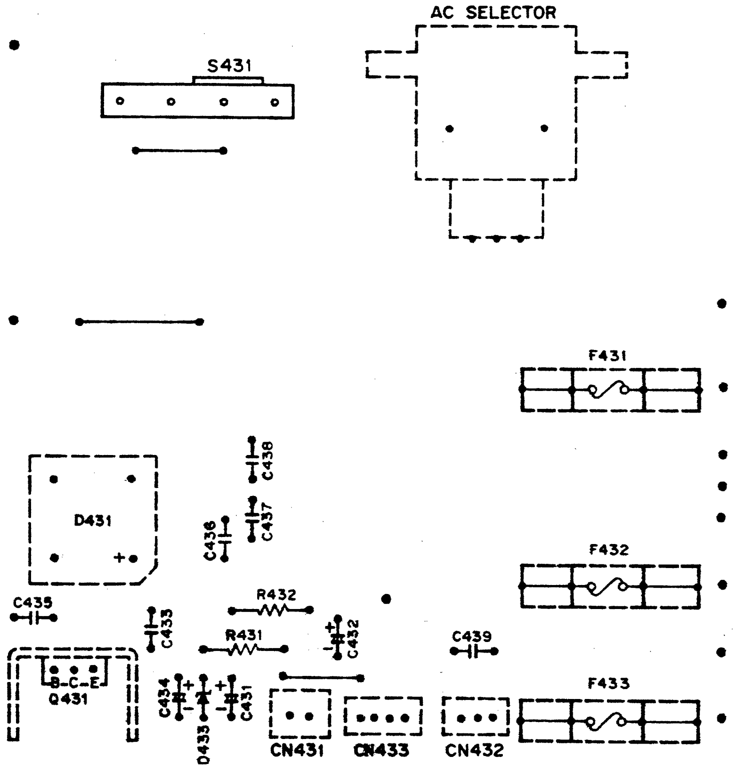
CONTROL P.C.BOARD
(BOTTOM VIEW)


CW905
CPSS
CPSS HOLD
TR OFF
DRF
FE-
FE+
TGLOUT
TGLIN
CW904
FUNC
CW901
CW902
BACK UP
CW907
RA0
RA1
RB0
CD ON
IC901
IC904
IC905
IC907
IC906
IC908
IC909
IC910
IC911
FL901
XT901
CW906
WRQ
WRC
LASER
RESET
MUTE
SCK
SOUT
SIN
CW908
RADIO ON
MUTE
SD
CLOK
DATA
CE
CW902
P32 P30
P33 P31 RB2
CW909
CW903
VOUT
VDD
SW933
TMR REC
ON ⟷ OFF
SW928
TIMER
SW927
SLEEP
SW925
UP
SW924
ADJ
SW926
DISP
SW922
CPSS
CW910
LCH
RCH
BASS
CW901
SW923
POWER
SW929
TAPE
SW930
TUNER
SW931
CD
SW932
LINE

GRAPHIC EQ. P.C.BOARD
(BOTTOM VIEW)

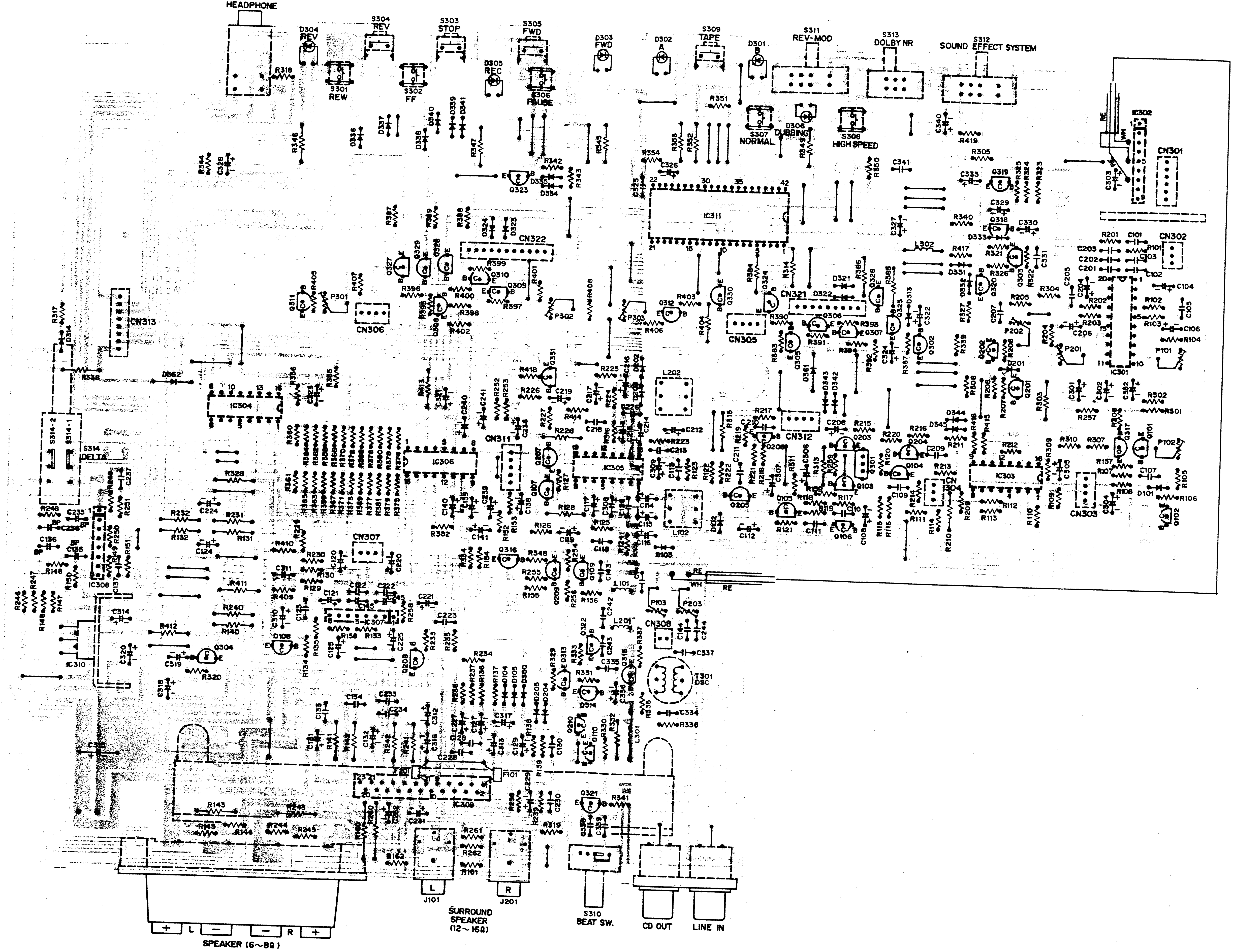

CN441
CN442
IC442
IC441
Q443
Q444
Q446
Q447
Q448
Q445
Q441
Q442
VR446
VOLUME
VR444
BALANCE
VR445
BASS
VR441
10kHz
VR442
2kHz
VR443
500Hz

POWER P.C.BOARD
(BOTTOM VIEW)

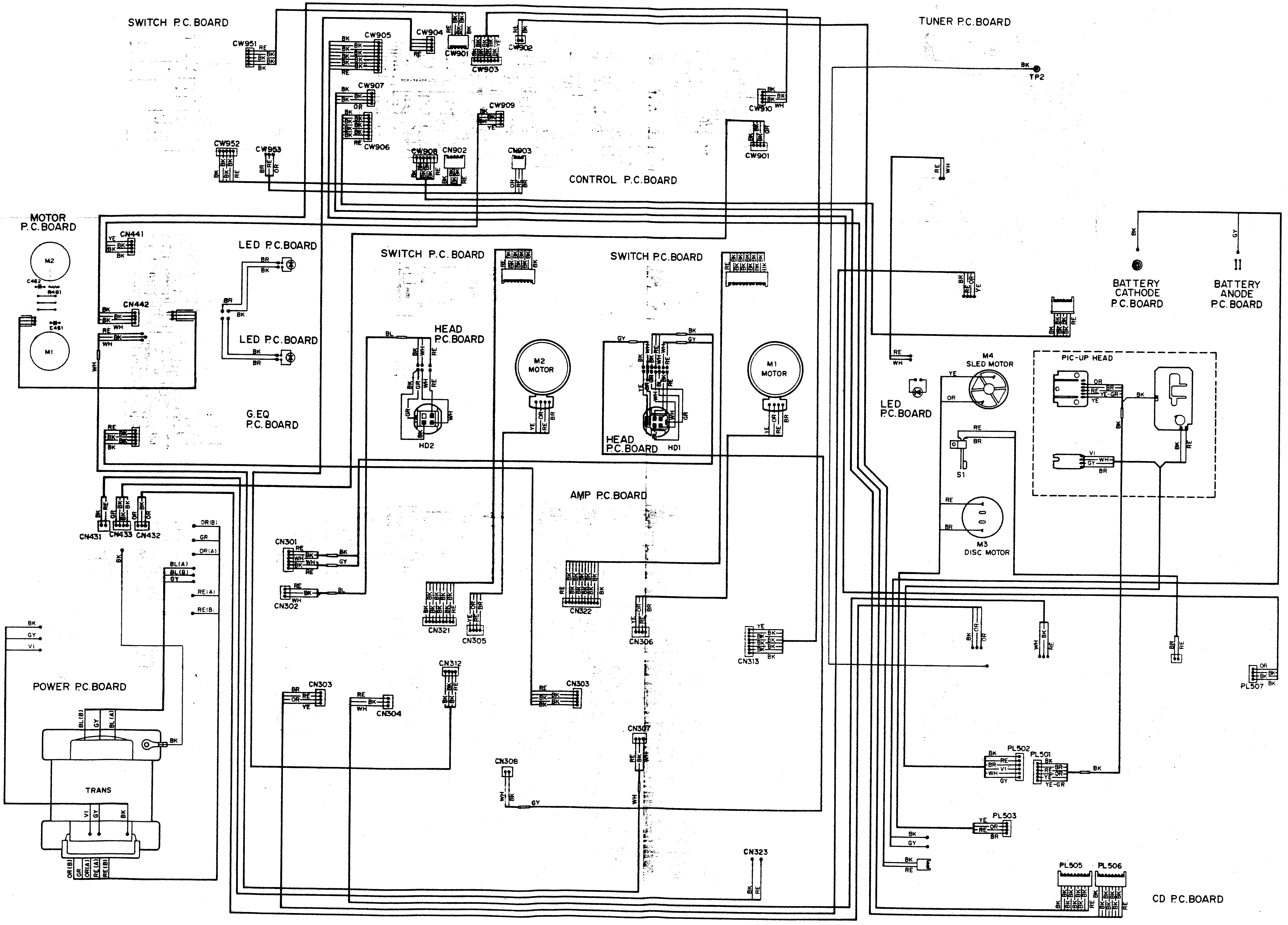

AC SELECTOR
S431
F431
F432
F433
D431
Q431
B-C-E
R431
R432
C431
C432
C433
C434
C435
C436
C437
C438
C439
D433
CN431
CN433
CN432

AMPLIFIER P.C.BOARD

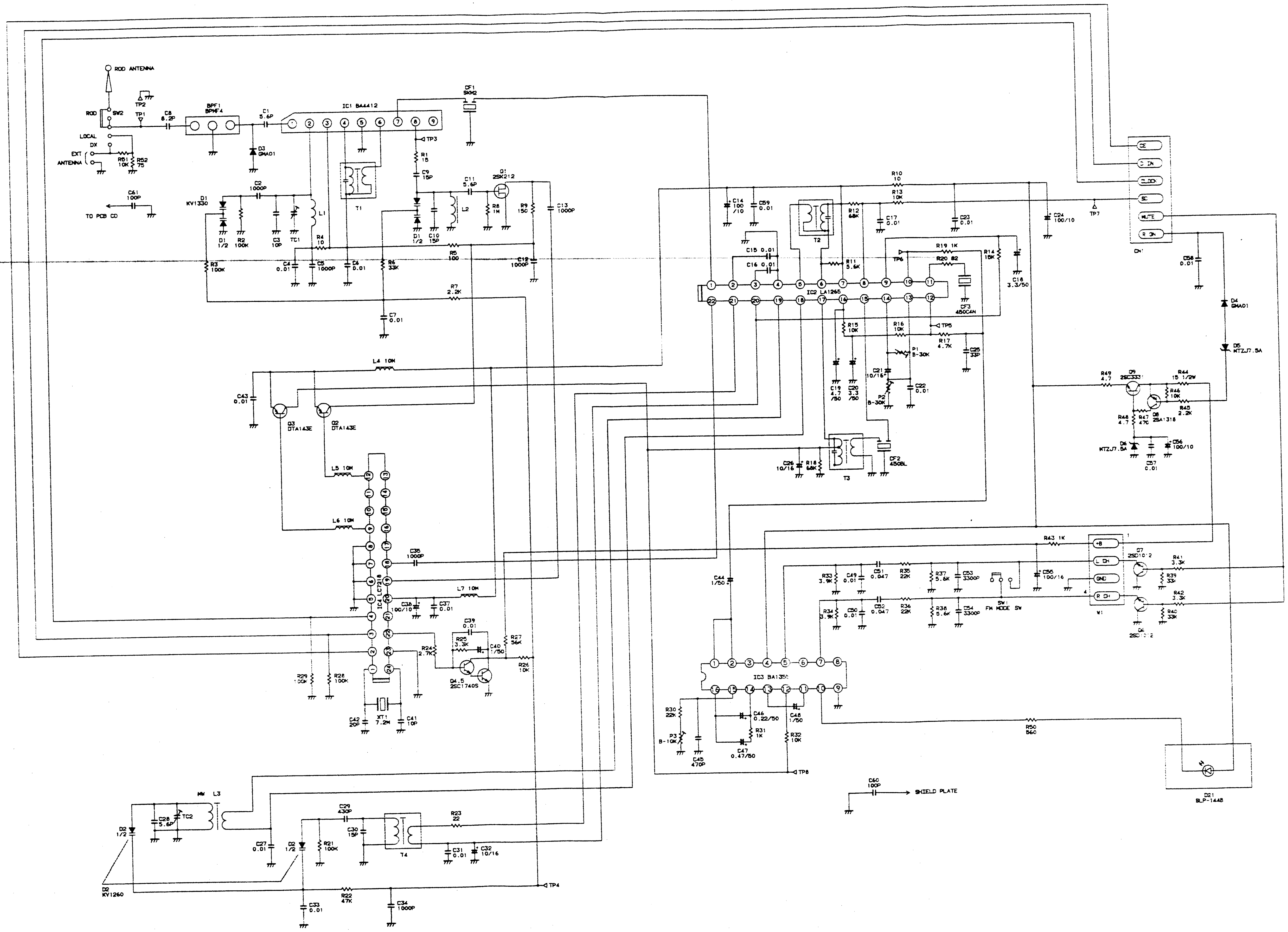
(BOTTOM VIEW)


J301 HEADPHONE
D304 REV
S304 REV
S301 REW
S302 FF
S303 STOP
D305 REC
S305 FWD
S306 PAUSE
D303 FWD
D302 A
S309 TAPE
D301 B
S311 REV-MOD
S313 DOLBY NR
S312 SOUND EFFECT SYSTEM
S307 NORMAL
D306 DUBBING
S308 HIGH SPEED
IC302
CN301
CN302
IC311
CN322
CN313
CN306
CN305
CN321
IC304
IC306
CN311
IC305
L202
CN312
IC303
CN303
IC301
S314 DELTA
S314-2
S314-1
IC308
IC310
CN307
IC307
L102
L101
L201
CN308
T301 OSC
P101
P102
P103
P201
P202
P203
P301
P302
P303
CN304
IC309
F101
RE
WH
J101 L
J201 R
SURROUND SPEAKER (12~16Ω)
S310 BEAT SW.
CD OUT
LINE IN
SPEAKER (6~8Ω)
+ L − − R +

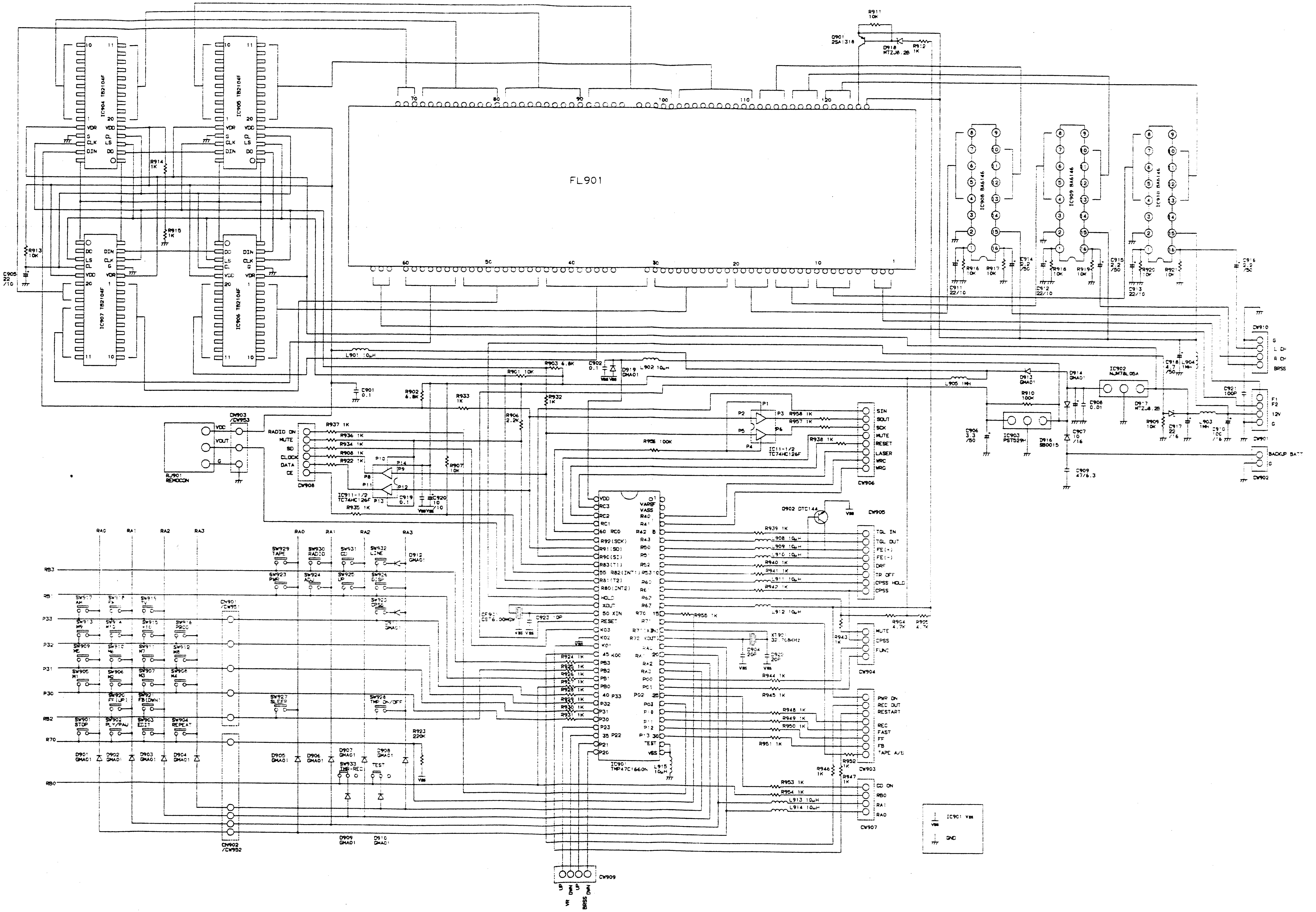
WIRING DIAGRAM


SWITCH P.C. BOARD
CW951
CW905
CW904
CW901
CW903
CW902
CW907
CW906
CW909
CW952
CW953
CW908
CN902
CN903
CONTROL P.C.BOARD
CW910
CW901
TUNER P.C.BOARD
TP2
MOTOR P.C.BOARD
M2
M1
C462
R481
C461
CN441
CN442
LED P.C.BOARD
LED P.C.BOARD
G.EQ P.C.BOARD
SWITCH P.C.BOARD
SWITCH P.C.BOARD
HEAD P.C.BOARD
HD2
M2 MOTOR
HEAD P.C.BOARD
HD1
M1 MOTOR
BATTERY CATHODE P.C.BOARD
BATTERY ANODE P.C.BOARD
LED P.C.BOARD
M4 SLED MOTOR
PIC-UP HEAD
S1
M3 DISC MOTOR
AMP P.C.BOARD
CN431
CN433
CN432
CN301
CN302
CN321
CN305
CN322
CN306
CN313
CN312
CN303
CN304
CN303
CN307
CN308
CN323
POWER P.C.BOARD
TRANS
PL507
PL502
PL501
PL503
PL505
PL506
CD P.C.BOARD

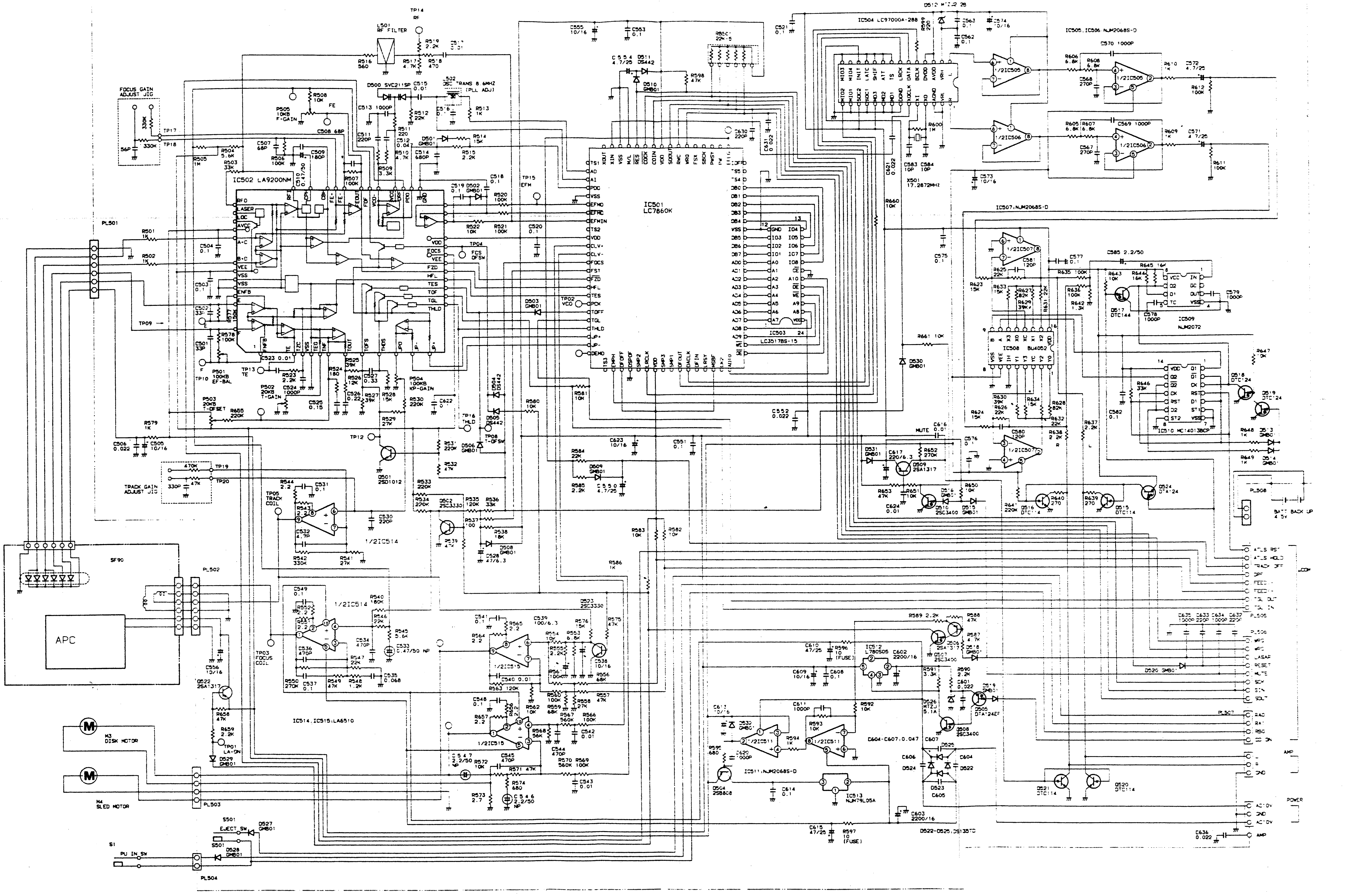
SCHEMATIC DIAGRAM (Tuner)


ROD ANTENNA
ROD
SW2
TP1
TP2
LOCAL
DX
EXT ANTENNA
R51 10K
R52 75
C8 8.2P
BPF1 BPMF4
C1 5.6P
IC1 BA4412
CF1 SKM2
D3 GMA01
TP3
R1 15
C9 15P
Q1 2SK212
C11 5.6P
L2
R8 1M
R9 150
C13 1000P
T1
C61 100P
TO PCB CD
D1 KV1330
C2 1000P
L1
D1 1/2
R2 100K
C3 10P
TC1
R4 10
D1 1/2
C10 15P
R3 100K
C4 0.01
C5 1000P
C6 0.01
R6 33K
R5 100
C12 1000P
R7 2.2K
C7 0.01
L4 10M
C43 0.01
Q3 DTA143E
Q2 DTA143E
L5 10M
L6 10M
IC4 LC7218
C36 1000P
L7 10M
C38 100/10
C37 0.01
C39 0.01
R25 3.3K
C40 1/50
R27 56K
R24 2.7K
R26 10K
Q4,5 2SC1740S
R29 100K
R28 100K
XT1 7.2M
C42 20P
C41 10P
MW L3
TC2
C28 5.6P
D2 1/2
C27 0.01
C29 430P
C30 15P
D2 1/2
R21 100K
T4
R23 22
C31 0.01
C32 10/16
TP4
D2 KV1260
R22 47K
C33 0.01
C34 1000P
IC2 LA1265
C14 100/10
C59 0.01
T2
R10 10
R13 10K
R12 68K
C17 0.01
C23 0.01
C24 100/10
TP7
C15 0.01
C16 0.01
R11 5.6K
R19 1K
TP6
R20 82
R14 18K
C18 3.3/50
CF3 450C4H
R15 10K
R16 10K
TP5
R17 4.7K
C25 33P
P1 B-30K
C21 10/16
C19 4.7/50
C20 3.3/50
C22 0.01
P2 B-30K
C26 10/16
R18 68K
T3
CF2 450BL
CE
DI
CLOCK
SD
MUTE
R ON
CN1
C58 0.01
D4 GMA01
D5 MTZJ7.5A
R49 4.7
Q9 2SC3331
R44 15 1/2W
R46 10K
Q8 2SA1318
R45 2.2K
R48 4.7
R47 470
D6 MTZJ7.5A
C56 100/10
C57 0.01
R43 1K
+B
L CH
GND
R CH
W1
Q7 2SD1012
R41 3.3K
R39 33K
R42 3.3K
R40 33K
Q6 2SD1012
C44 1/50
R33 3.9K
C49 0.01
C51 0.047
R35 22K
R37 5.6K
C53 3300P
C55 100/16
SW1 FM MODE SW
R34 3.9K
C50 0.01
C52 0.047
R36 22K
R38 5.6K
C54 3300P
IC3 BA1356
R30 22K
P3 B-10K
C45 470P
C46 0.22/50
C48 1/50
R31 1K
R32 10K
C47 0.47/50
TP8
R50 560
D21 SLP-144B
C60 100P
SHIELD PLATE

SCHEMATIC DIAGRAM (Control)

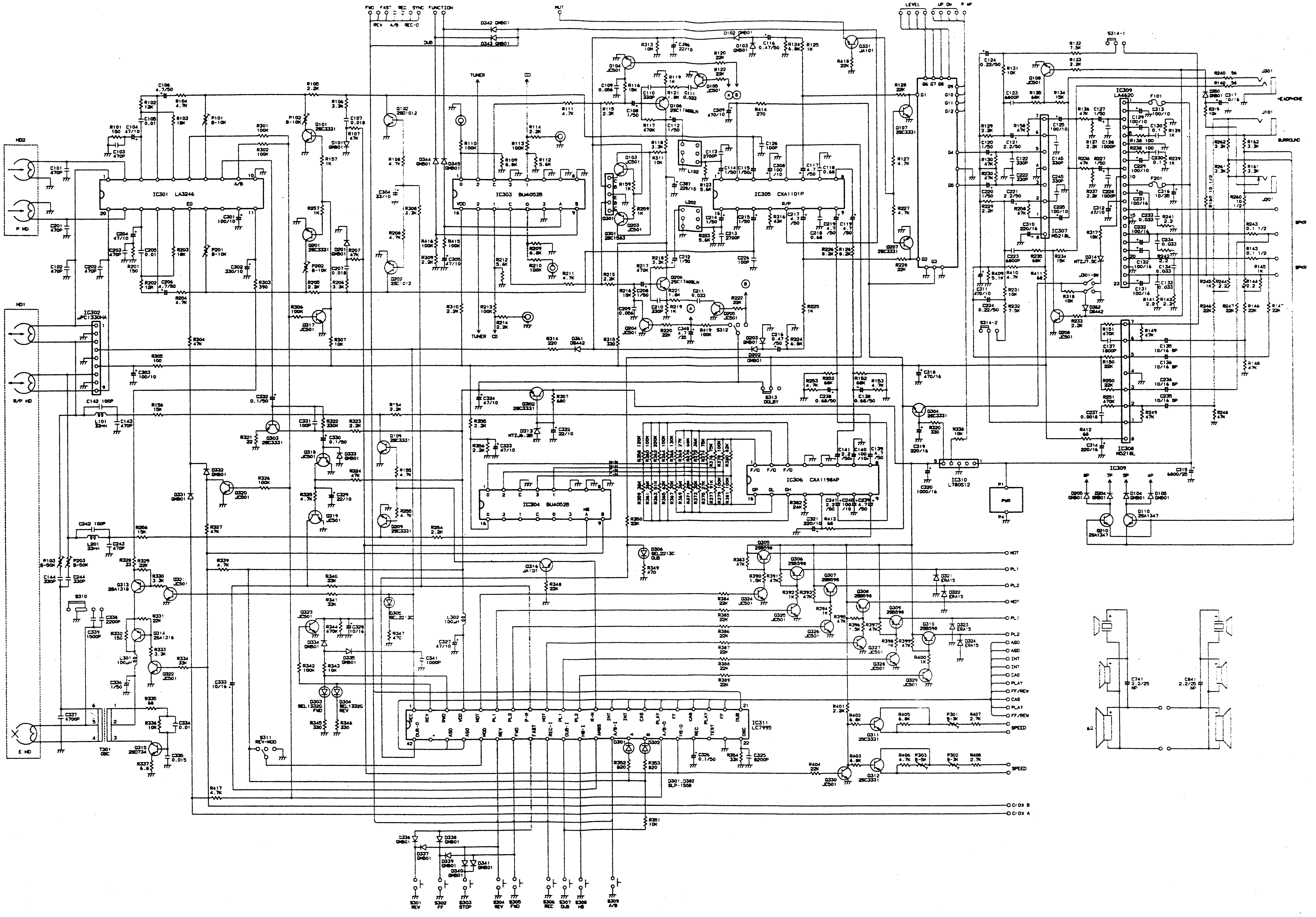

FL901
IC904 TB2104F
IC905 TB2104F
IC907 TB2104F
IC906 TB2104F
IC908 BA6146
IC909 BA6146
IC910 BA6146
IC901 TMP47C1660N
IC902 NJM78L05A
IC903 PST529H
IC911-1/2 TC74HC126F
IC911-1/2 TC74HC126F
Q901 2SA1318
Q902 DTC144
R911 10K
R912 1K
D918 MTZJ6.2B
R913 10K
R914 1K
R915 1K
C905 22 /10
L901 10μH
L902 10μH
L905 1MH
C901 0.1
C902 0.1
D919 GMA01
R901 10K
R902 6.8K
R903 6.8K
R906 2.2K
R907 10K
R933 1K
R932 1K
R937 1K
R936 1K
R934 1K
R908 1K
R922 1K
R935 1K
C919 0.1
C920 10 /10
R958 1K
R957 1K
R938 1K
R956 100K
CW903 /CW953
RJ901 REMOCON
VDD
VOUT
G
RADIO ON
MUTE
SD
CLOCK
DATA
CE
CW908
SIN
SOUT
SCK
MUTE
RESET
LASER
WRC
WRG
CW906
CW905
TGL IN
TGL OUT
FE(+)
FE(-)
DRF
TR OFF
CPSS HOLD
CPSS
R939 1K
L908 10μH
L909 10μH
L910 10μH
R940 1K
R941 1K
L911 10μH
R942 1K
L912 10μH
R955 1K
R964 4.7K
R965 4.7K
R943 1K
MUTE
CPSS
FUNC
CW904
X901 32.768KHz
C904 20P
C922 20P
CF901 CST6.00MGW
C923 10P
R944 1K
R945 1K
PWR ON
REC OUT
RESTART
REC
FAST
FF
FB
TAPE A/B
R948 1K
R949 1K
R950 1K
R951 1K
R952 1K
R946 1K
R947 1K
CW903
R953 1K
R954 1K
L913 10μH
L914 10μH
CD ON
RB0
RA1
RA0
CW907
L915 10μH
R924 1K
R925 1K
R926 1K
R927 1K
R928 1K
R929 1K
R930 1K
R931 1K
CW909
VR
BASS
R916 10K
R917 10K
R918 10K
R919 10K
R920 10K
R921 10K
C911 22/10
C912 22/10
C913 22/10
C914 2.2 /50
C915 2.2 /50
C916 2.2 /50
C918 4.7 /50
L904 1MH
D913 GMA01
D914 GMA01
D916 SB0015
D917 MTZJ6.2B
R910 100K
R909 10K
C908 0.01
C906 3.3 /50
C907 10 /16
C909 47/6.3
C917 22 /16
L903 1MH
C910 10C /16
C921 100P
CW910
G
L CH
R CH
BPSS
F1
F2
12V
G
CW901
BACKUP BATT
G
CW902
RA0
RA1
RA2
RA3
RB3
RB1
P33
P32
P31
P30
RB2
R70
RB0
SW917 AM
SW918 FM
SW919 TV
SW913 M9
SW914 M10
SW915 M11
SW916 PROG
SW909 M5
SW910 M6
SW911 M7
SW912 M8
SW905 M1
SW906 M2
SW907 M3
SW908 M4
SW920 FF(UP)
SW921 FB(DWN)
SW901 STOP
SW902 PLAY/PAU
SW903 EDIT
SW904 REPEAT
SW929 TAPE
SW930 RADIO
SW931 CD
SW932 LINE
SW923 PWR
SW924 ADJ
SW925 UP
SW926 DISP
SW922 CPSS
SW927 SLEEP
SW928 TMR ON/OFF
SW933 TMR-REC
TEST
D912 GMA01
D911 GMA01
R923 220K
CW901 /CW951
CW902 /CW952
D901 GMA01
D902 GMA01
D903 GMA01
D904 GMA01
D905 GMA01
D906 GMA01
D907 GMA01
D908 GMA01
D909 GMA01
D910 GMA01
IC901 VSS
GND

SCHEMATIC DIAGRAM (CD)

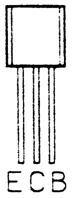
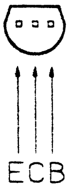
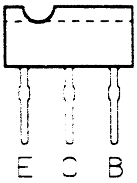
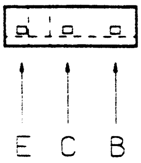
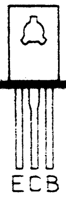
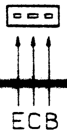
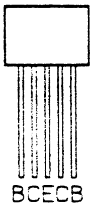
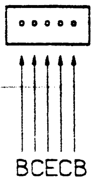
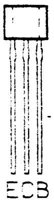
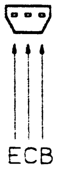
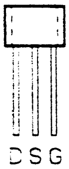
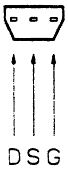
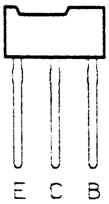
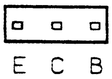


IC502 LA9200NM
IC501 LC7860K
IC503 LC3517BS-15
IC504 LC97000A-288
IC505, IC506 NJM2068S-D
IC507 NJM2068S-D
IC508 BU4052
IC509 NJM2072
IC510 MC14013BCP
IC511 NJM2068S-D
IC512 L78C05
IC513 NJM79L05A
IC514, IC515 LA6510
1/2IC514
1/2IC515
L501 RF FILTER
L532 TRANS 8.6MHZ (PLL ADJ)
X501 17.2872MHz
FOCUS GAIN ADJUST JIG
TRACK GAIN ADJUST JIG
P505 10KB F-GAIN
P501 100KB EF-BAL
P502 20KB T-GAIN
P503 20KB T-OFSET
P504 100KB KP-GAIN
PL501
PL502
PL503
PL504
PL505
PL506
PL507
PL508
SF90
APC
M3 DISK MOTOR
M4 SLED MOTOR
S501 EJECT SW
S1 PU IN SW
TP01 LA-ON
TP02 VCO
TP03 FOCUS COIL
TP04 FCS OFSW
TP05 TRACK COIL
TP08 T-OFSW
TP09
TP10
TP12
TP13 TE
TP14 RF
TP15 EFM
TP16 THLD
TP17
TP18
TP19
TP20
MUTE
BATT BACK UP 4.5V
ATLS RST
ATLS HOLD
TRACK OFF
OFF
FEED+
FEED-
TSL OUT
TSL IN
LASAR
RESET
MUTE
SCK
SIN
SOUT
AMP
POWER
AC10V
GND
AMP
D522~D525: DS135TC
C604~C607: 0.047

SCHEMATIC DIAGRAM (Amplifier 1)


HD2
P HD
HD1
R/P HD
E HD
IC301 LA3246
IC302 µPC1330HA
IC303 BU4052B
IC304 BU4052B
IC305 CXA1101P
IC306 CXA1198AP
IC307 M5218L
IC308 M5218L
IC309 LA4620
IC310 L78OS12
IC311 LC7995
TUNER
CD
MUT
FWD FAST REC SYNC FUNCTION
REV A/B REC-O
DUB
LEVEL
HEADPHONE
SURROUND
SPKR
PWR
S313 DOLBY
S311 REV-MOD
T301 OSC
MOT
PL1
PL2
SPEED
C/D2 B
C/D2 A
S301 REV
S302 FF
S303 STOP
S304 REV
S305 FWD
S306 REC
S307 DUB
S308 HS
S309 A/B

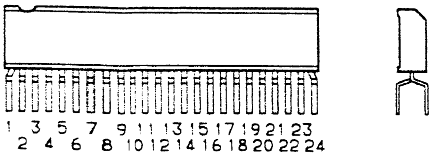
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
JA101 JC501 2SA1318 2SB598 2SC3331 2SD734			DTC144		
2SD612			2SC1583		
DTA143 2SA1317 2SA1347 2SB808 2SC1740SLN 2SC3330 2SC3400 2SD1012			2SK212		
DTA124 DTC114 DTC124 DTC144					

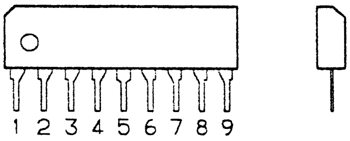
TERMINAL NAME

B → BASE	S → SOURCE
C → COLLECTOR	G → GATE
E → EMITTER	D → DRAIN

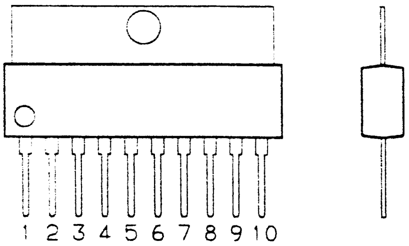
BA3824LS FRONT/SIDE VIEWS


1 3 5 7 9 11 13 15 17 19 21 23
2 4 6 8 10 12 14 16 18 20 22 24

NJM2068S-D FRONT/SIDE VIEWS



LA6510 FRONT/SIDE VIEWS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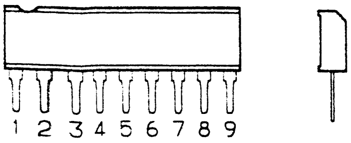
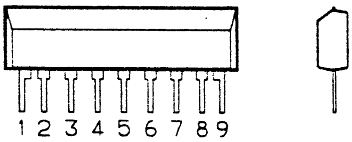
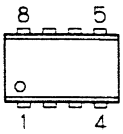
BA4412 FRONT/SIDE VIEWS



UPC1330HA FRONT/SIDE VIEWS

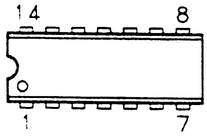


NJM2072D TOP VIEW

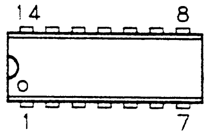


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

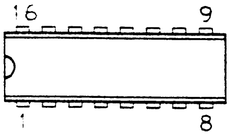
LC4011B TOP VIEW



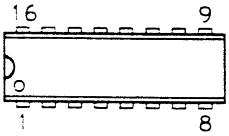
MC14013BCP TOP VIEW



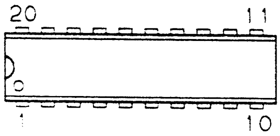
BA1355 TOP VIEW
BA6146 TOP VIEW
CXA1101P TOP VIEW



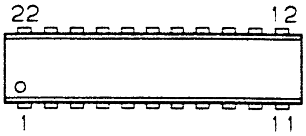
CXA1198AP TOP VIEW



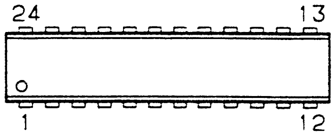
LA3246 TOP VIEW



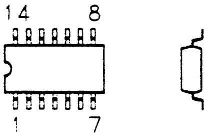
LA1265 TOP VIEW



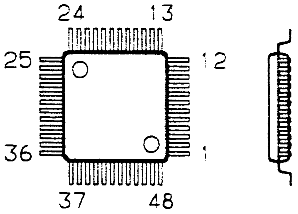
LC3517BS-15 TOP VIEW
LC7218 TOP VIEW



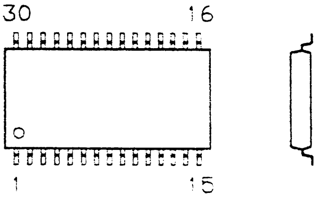
TC74HC126F TOP/SIDE VIEWS



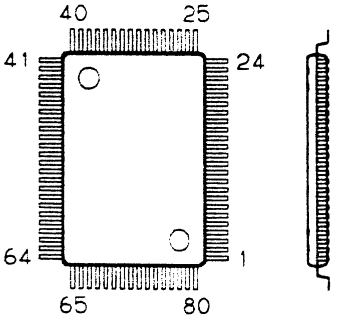
LA9200NM TOP/SIDE VIEWS


24
13
25
12
36
1
37
48

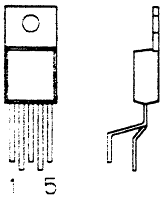
TB2104F TOP/SIDE VIEWS



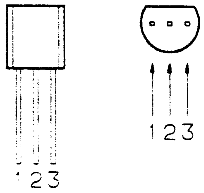
LC7860K TOP/SIDE VIEWS


40
25
41
24
64
1
65
80

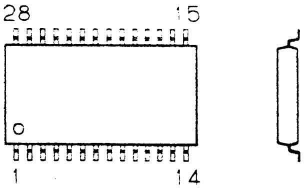
L780S05 TOP/SIDE VIEWS
L780S12 TOP/SIDE VIEWS



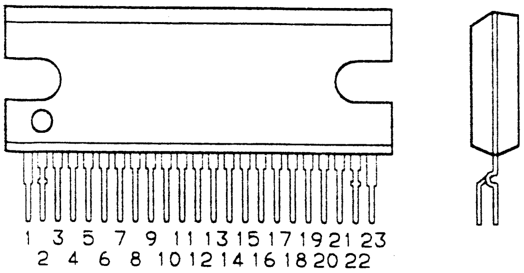
NJM79L05A FRONT/BOTTOM VIEWS
PST529H-2 FRONT/BOTTOM VIEWS



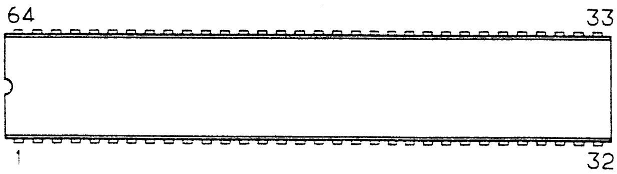
LC97000A-288 TOP/SIDE VIEWS



LA4620 FRONT/SIDE VIEWS

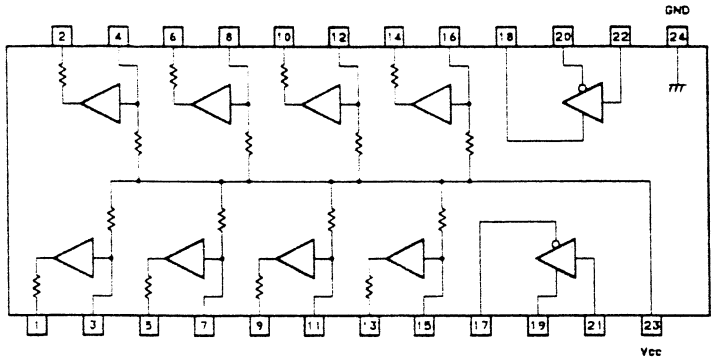

1 3 5 7 9 11 13 15 17 19 21 23
2 4 6 8 10 12 14 16 18 20 22

TMP47C1660N-V524 TOP VIEW

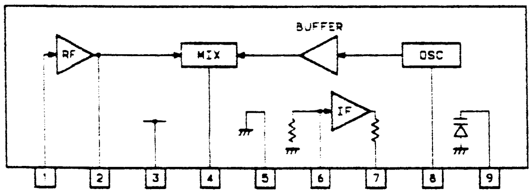


IC BLOCK DIAGRAM

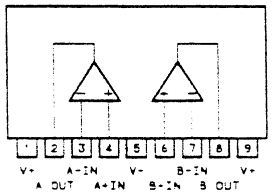
BA3824LS BLOCK DIAGRAM


GND
2
4
6
8
10
12
14
16
18
20
22
24
1
3
5
7
9
11
13
15
17
19
21
23
Vcc

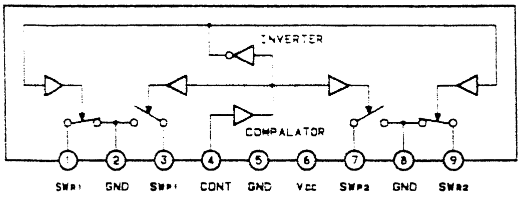
BA4412 BLOCK DIAGRAM


BUFFER
RF
MIX
OSC
IF
1
2
3
4
5
6
7
8
9

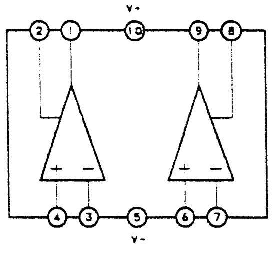
NJM2068S-D BLOCK DIAGRAM


1
2
3
4
5
6
7
8
9
V+
A-IN
V-
B-IN
V+
A OUT
A+IN
B+IN
B OUT

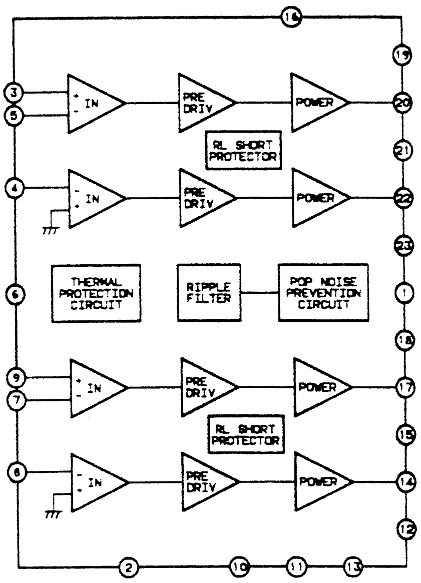
UPC1330HA BLOCK DIAGRAM


INVERTER
COMPALATOR
1
2
3
4
5
6
7
8
9
SWR1
GND
SWP1
CONT
GND
Vcc
SWP2
GND
SWR2

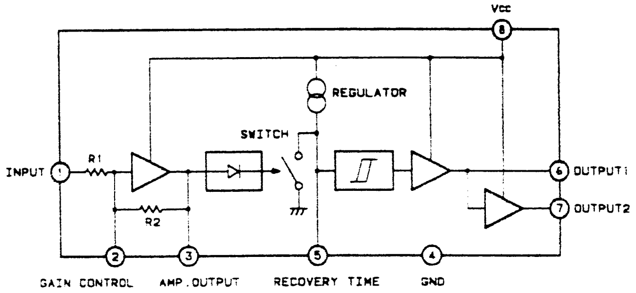
LA6510 BLOCK DIAGRAM


V+
2
1
10
9
8
4
3
5
6
7
V-

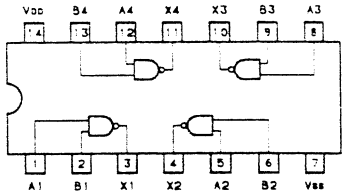
LA4620 BLOCK DIAGRAM


16
3
5
4
6
9
7
8
IN
PRE DRIV
POWER
RL SHORT PROTECTOR
THERMAL PROTECTION CIRCUIT
RIPPLE FILTER
POP NOISE PREVENTION CIRCUIT
19
20
21
22
23
1
18
17
15
14
12
2
10
11
13

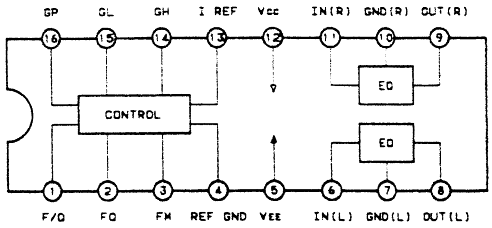
NJM2072D BLOCK DIAGRAM


Vcc
8
REGULATOR
SWITCH
INPUT
1
R1
R2
6
OUTPUT1
7
OUTPUT2
2
3
5
4
GAIN CONTROL
AMP.OUTPUT
RECOVERY TIME
GND

LC4011B BLOCK DIAGRAM

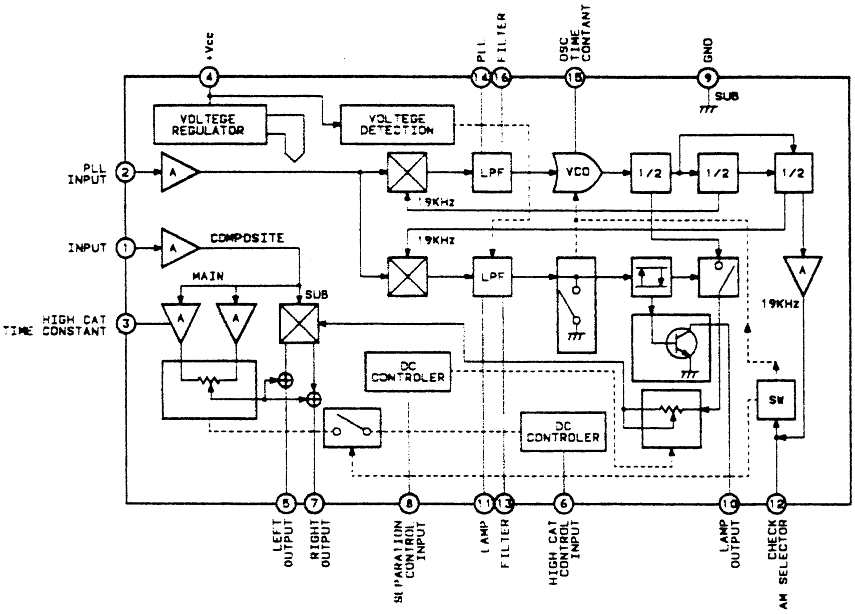

VDD
B4
A4
X4
X3
B3
A3
14
13
12
11
10
9
8
1
2
3
4
5
6
7
A1
B1
X1
X2
A2
B2
Vss

CXA1198AP BLOCK DIAGRAM


GP
GL
GH
I REF
Vcc
IN(R)
GND(R)
OUT(R)
16
15
14
13
12
11
10
9
CONTROL
EQ
EQ
1
2
3
4
5
6
7
8
F/O
FQ
FM
REF GND
VEE
IN(L)
GND(L)
OUT(L)

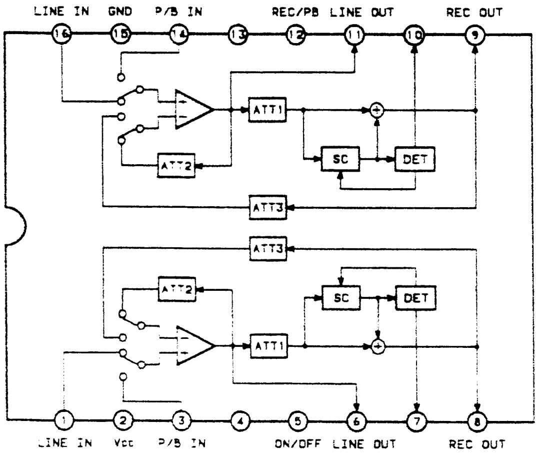
IC BLOCK DIAGRAM (Continued)

BA1355 BLOCK DIAGRAM



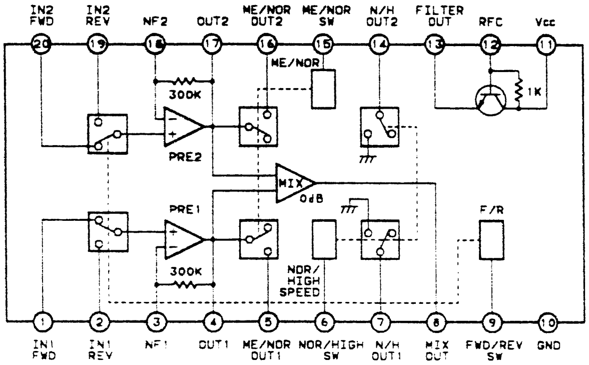
+Vcc
PLL FILTER
OSC TIME CONTANT
GND
SUB
VOLTEGE REGULATOR
VOLTEGE DETECTION
PLL INPUT
INPUT
HIGH CAT TIME CONSTANT
A
COMPOSITE
MAIN
SUB
LPF
VCO
1/2
19KHz
DC CONTROLER
SW
LEFT OUTPUT
RIGHT OUTPUT
SEPARATION CONTROL INPUT
LAMP FILTER
HIGH CAT CONTROL INPUT
LAMP OUTPUT
CHECK AM SELECTOR
4
14
16
15
9
2
1
3
5
7
8
11
13
6
10
12

CXA1101P BLOCK DIAGRAM



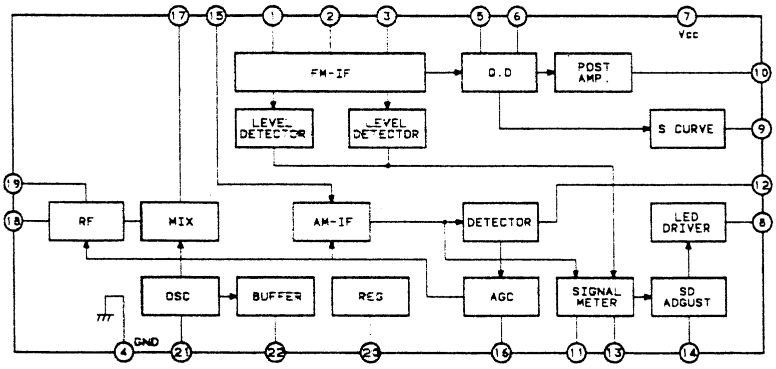
LINE IN
GND
P/B IN
REC/PB LINE OUT
REC OUT
ATT1
ATT2
ATT3
SC
DET
LINE IN
Vcc
P/B IN
ON/OFF
LINE OUT
REC OUT
16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8

LA3246 BLOCK DIAGRAM



IN2 FWD
IN2 REV
NF2
OUT2
ME/NOR OUT2
ME/NOR SW
N/H OUT2
FILTER OUT
RFC
Vcc
ME/NOR
300K
PRE2
MIX
0dB
PRE1
300K
NOR/HIGH SPEED
F/R
1K
IN1 FWD
IN1 REV
NF1
OUT1
ME/NOR OUT1
NOR/HIGH SW
N/H OUT1
MIX OUT
FWD/REV SW
GND
20
19
18
17
16
15
14
13
12
11
1
2
3
4
5
6
7
8
9
10

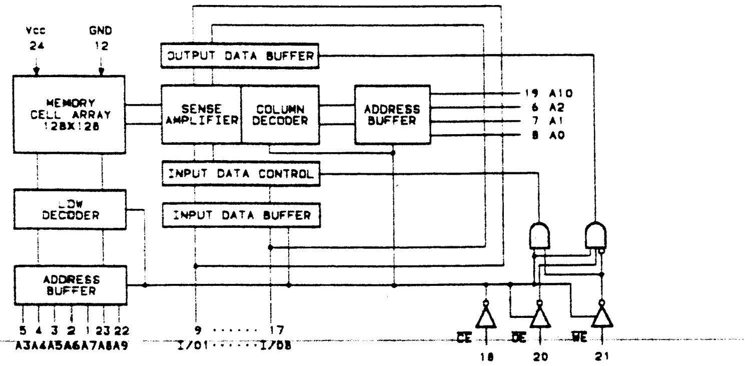
LA1265 BLOCK DIAGRAM



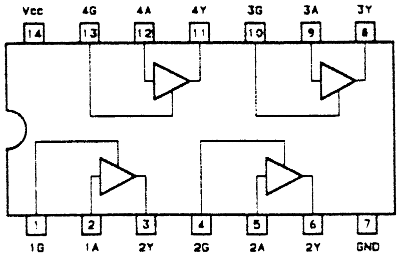
17
15
1
2
3
5
6
7
Vcc
FM-IF
Q.D
POST AMP.
LEVEL DETECTOR
LEVEL DETECTOR
S CURVE
RF
MIX
AM-IF
DETECTOR
LED DRIVER
OSC
BUFFER
REG
AGC
SIGNAL METER
SD ADGUST
GND
10
9
12
8
19
18
4
21
22
23
16
11
13
14

IC BLOCK DIAGRAM (Continued)

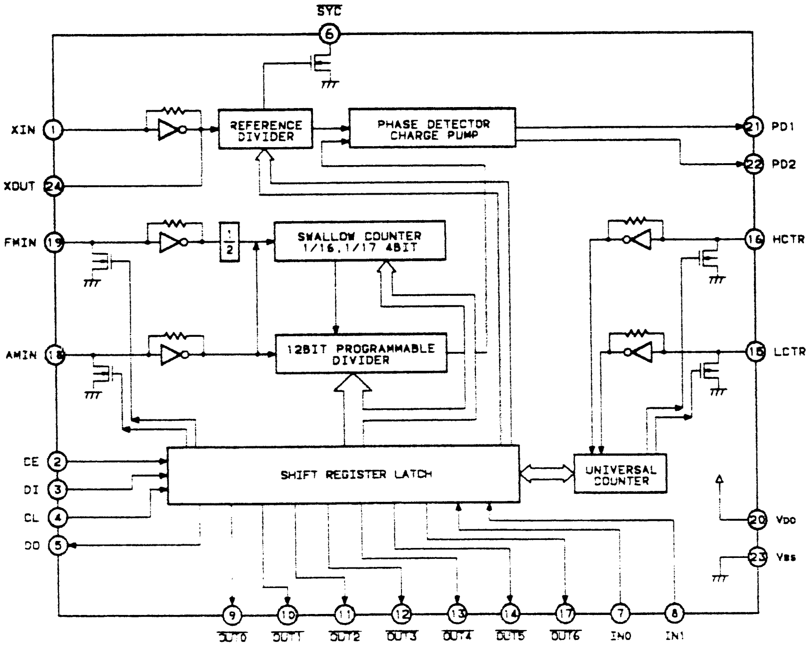
LC3517BS-15 BLOCK DIAGRAM


Vcc 24
GND 12
MEMORY CELL ARRAY 128X128
OUTPUT DATA BUFFER
SENSE AMPLIFIER
COLUMN DECODER
ADDRESS BUFFER
19 A10
6 A2
7 A1
8 A0
INPUT DATA CONTROL
INPUT DATA BUFFER
LOW DECODER
ADDRESS BUFFER
5 4 3 2 1 23 22
A3A4A5A6A7A8A9
9 ······· 17
I/O1······I/O8
CE
OE
WE
18
20
21

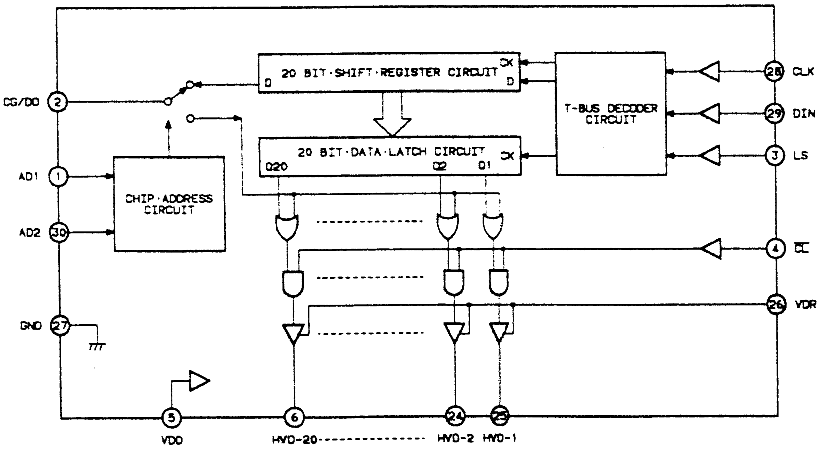
TC74HC126F BLOCK DIAGRAM


Vcc
4G
4A
4Y
3G
3A
3Y
14
13
12
11
10
9
8
1
2
3
4
5
6
7
1G
1A
2Y
2G
2A
2Y
GND

LC7218 BLOCK DIAGRAM

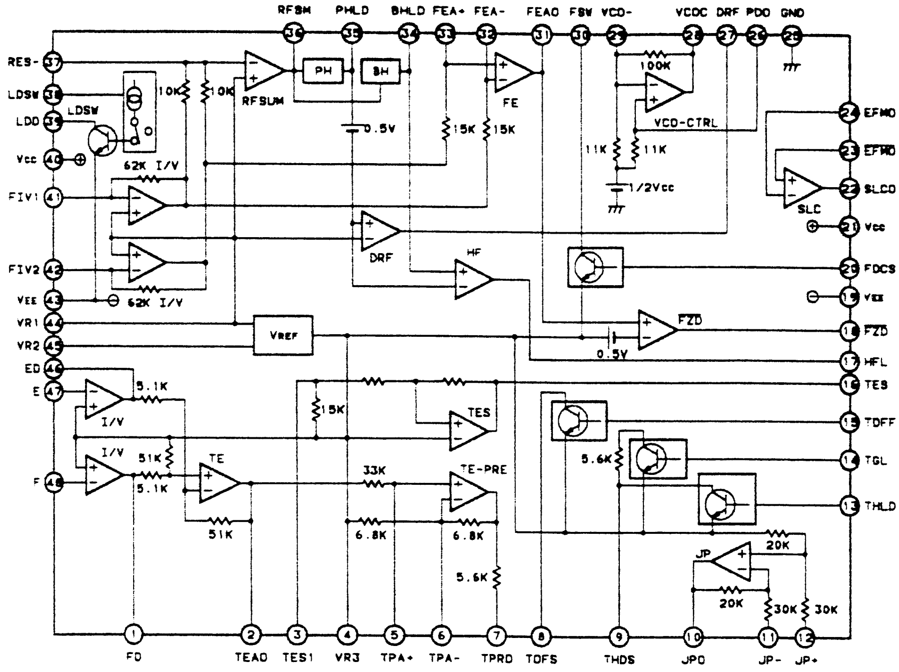

SYC
6
XIN 1
XOUT 24
FMIN 19
AMIN 18
CE 2
DI 3
CL 4
DO 5
REFERENCE DIVIDER
PHASE DETECTOR CHARGE PUMP
1/2
SWALLOW COUNTER 1/16,1/17 4BIT
12BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
21 PD1
22 PD2
16 HCTR
15 LCTR
20 VDD
23 VSS
9
10
11
12
13
14
17
7
8
OUT0
OUT1
OUT2
OUT3
OUT4
OUT5
OUT6
IN0
IN1

TB2104F BLOCK DIAGRAM

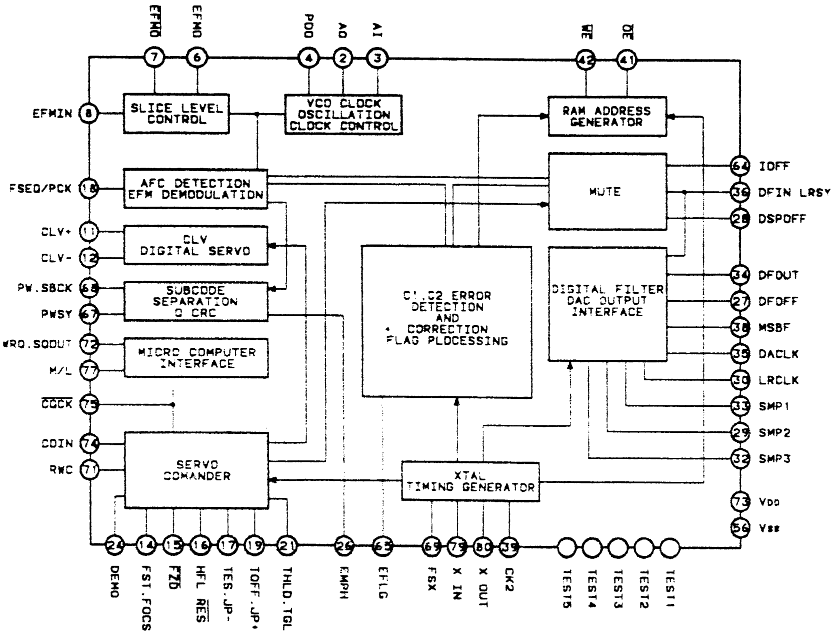

20 BIT·SHIFT·REGISTER CIRCUIT
CK
D
D
20 BIT·DATA·LATCH CIRCUIT
Q20
Q2
Q1
CK
T-BUS DECODER CIRCUIT
CHIP·ADDRESS CIRCUIT
CG/DO 2
AD1 1
AD2 30
GND 27
28 CLK
29 DIN
3 LS
4 CL
26 VDR
5
VDD
6
HVD-20
24
HVD-2
25
HVD-1

IC BLOCK DIAGRAM (Continued)

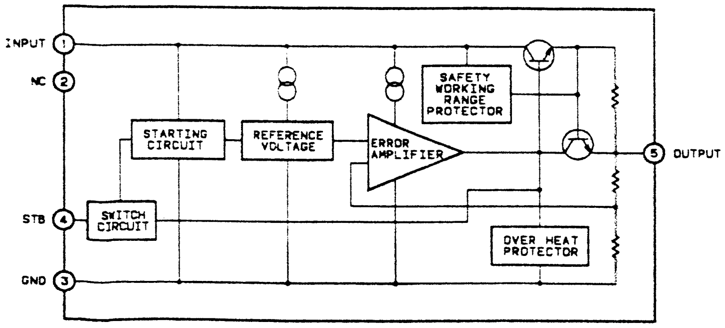
LA9200NM BLOCK DIAGRAM


RFSM
PHLD
BHLD
FEA+
FEA-
FEAO
FSW
VCO-
VCOC
DRF
PDO
GND
RES-
LDSW
LDO
Vcc
FIV1
FIV2
VEE
VR1
VR2
ED
E
F
10K
10K
LDSW
RFSUM
PH
BH
0.5V
15K
15K
FE
100K
VCO-CTRL
11K
11K
1/2Vcc
62K I/V
62K I/V
DRF
HF
SLC
VREF
FZD
0.5V
5.1K
5.1K
I/V
I/V
51K
51K
TE
15K
TES
33K
TE-PRE
6.8K
6.8K
5.6K
5.6K
JP
20K
20K
30K
30K
EFMO
EFMO
SLCO
Vcc
FOCS
VEE
FZD
HFL
TES
TOFF
TGL
THLD
FD
TEAO
TES1
VR3
TPA+
TPA-
TPRO
TOFS
THDS
JPO
JP-
JP+

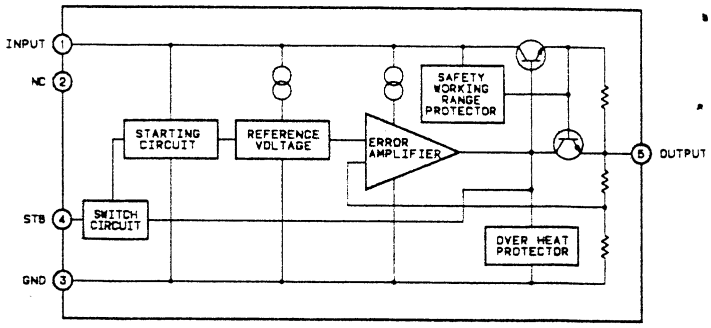
LC7860K BLOCK DIAGRAM


EFMO
EFMO
PDO
AO
AI
WE
OE
EFMIN
FSEQ/PCK
CLV+
CLV-
PW.SBCK
PWSY
WRQ.SQOUT
M/L
CQCK
COIN
RWC
SLICE LEVEL CONTROL
VCO CLOCK OSCILLATION CLOCK CONTROL
RAM ADDRESS GENERATOR
AFC DETECTION EFM DEMODULATION
MUTE
CLV DIGITAL SERVO
SUBCODE SEPARATION Q CRC
MICRO COMPUTER INTERFACE
C1.C2 ERROR DETECTION AND CORRECTION FLAG PLOCESSING
DIGITAL FILTER DAC OUTPUT INTERFACE
SERVO COMANDER
XTAL TIMING GENERATOR
IOFF
DFIN LRSY
DSPOFF
DFOUT
DFOFF
MSBF
DACLK
LRCLK
SMP1
SMP2
SMP3
VDD
VSS
DEMO
FST.FOCS
FZD
HFL RES
TES.JP-
TOFF.JP+
THLD.TGL
EMPH
EFLG
FSX
X IN
X OUT
CK2
TEST5
TEST4
TEST3
TEST2
TEST1

L780S05 BLOCK DIAGRAM

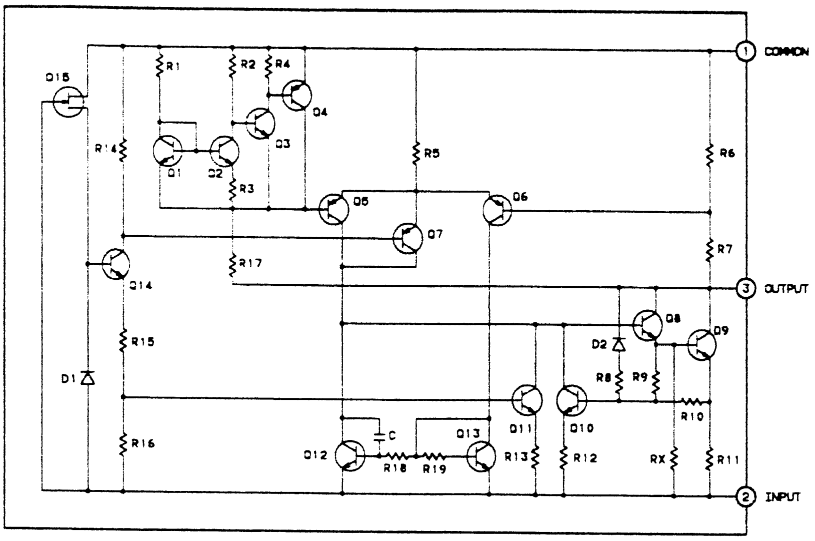

INPUT
NC
STB
GND
STARTING CIRCUIT
REFERENCE VOLTAGE
ERROR AMPLIFIER
SAFETY WORKING RANGE PROTECTOR
SWITCH CIRCUIT
OVER HEAT PROTECTOR
OUTPUT

L780S12 BLOCK DIAGRAM

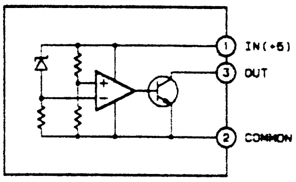

INPUT
NC
STB
GND
STARTING CIRCUIT
REFERENCE VOLTAGE
ERROR AMPLIFIER
SAFETY WORKING RANGE PROTECTOR
SWITCH CIRCUIT
OVER HEAT PROTECTOR
OUTPUT

IC BLOCK DIAGRAM (Continued)

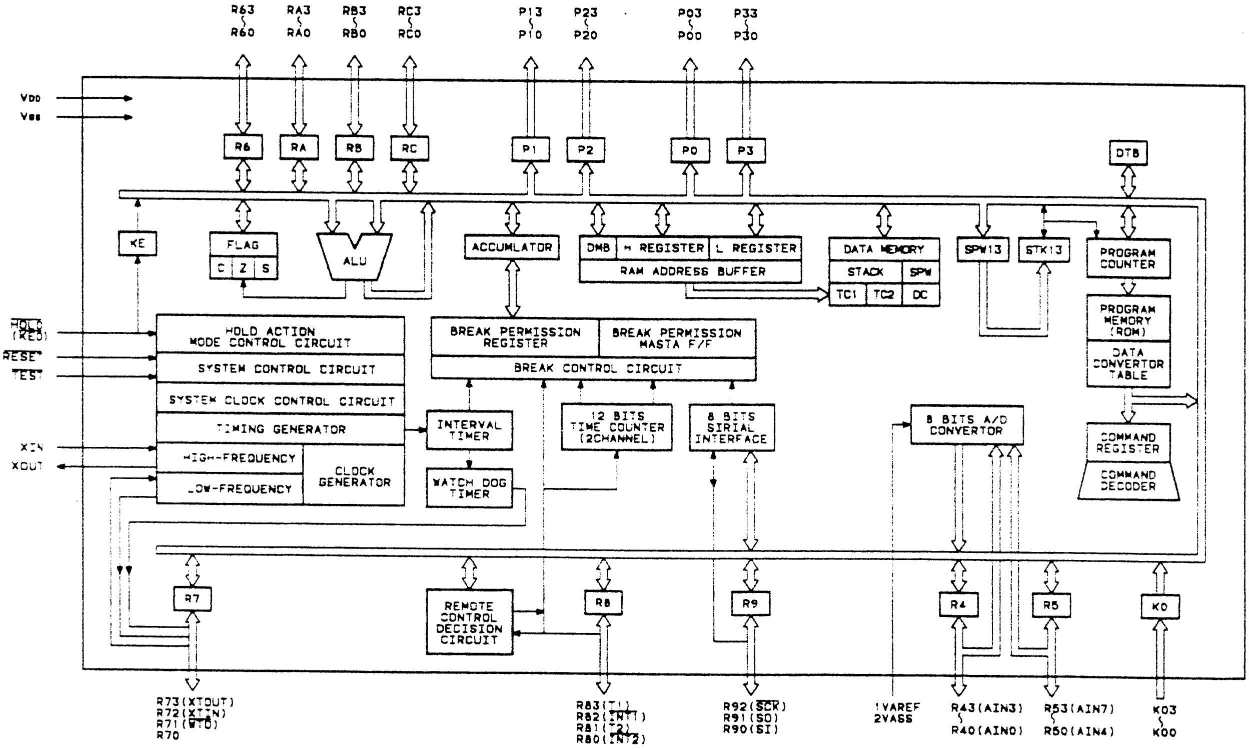
NJM79L05A BLOCK DIAGRAM


Q15
R1
R2
R4
Q4
Q3
R14
Q1
Q2
R3
R5
R6
Q5
Q6
Q7
R7
R17
Q14
R15
D1
D2
Q8
Q9
R8
R9
R10
Q11
Q10
R16
C
Q13
Q12
R18
R19
R13
R12
RX
R11
① COMMON
③ OUTPUT
② INPUT

PST529H-2 BLOCK DIAGRAM


① IN(+6)
③ OUT
② COMMON
+
-

TMP47C1660N-V524 BLOCK DIAGRAM


R63 ~ R60
RA3 ~ RA0
RB3 ~ RB0
RC3 ~ RC0
P13 ~ P10
P23 ~ P20
P03 ~ P00
P33 ~ P30
VDD
VSS
R6
RA
RB
RC
P1
P2
P0
P3
DTB
KE
FLAG
C
Z
S
ALU
ACCUMLATOR
DMB
H REGISTER
L REGISTER
RAM ADDRESS BUFFER
DATA MEMORY
STACK
SPW
TC1
TC2
DC
SPW13
STK13
PROGRAM COUNTER
PROGRAM MEMORY (ROM)
DATA CONVERTOR TABLE
COMMAND REGISTER
COMMAND DECODER
HOLD (KE0)
RESET
TEST
HOLD ACTION MODE CONTROL CIRCUIT
SYSTEM CONTROL CIRCUIT
SYSTEM CLOCK CONTROL CIRCUIT
TIMING GENERATOR
XIN
XOUT
HIGH-FREQUENCY
LOW-FREQUENCY
CLOCK GENERATOR
BREAK PERMISSION REGISTER
BREAK PERMISSION MASTA F/F
BREAK CONTROL CIRCUIT
INTERVAL TIMER
WATCH DOG TIMER
12 BITS TIME COUNTER (2CHANNEL)
8 BITS SIRIAL INTERFACE
8 BITS A/D CONVERTOR
R7
REMOTE CONTROL DECISION CIRCUIT
R8
R9
R4
R5
K0
R73(XTOUT)
R72(XTIN)
R71(WTO)
R70
R83(T1)
R82(INT1)
R81(T2)
R80(INT2)
R92(SCK)
R91(SO)
R90(SI)
1VAREF
2VASS
R43(AIN3) ~ R40(AIN0)
R53(AIN7) ~ R50(AIN4)
K03 ~ K00

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Osaka, Japan

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